



BT1340G/1 BENCH LATHE

OPERATION MANUAL



1. GENERAL SAFETY RULES FOR POWER TOOLS



DO NOT ATTEMPT TO OPERATE UNTIL YOU HAVE READ THOROUGHLY AND UNDERSTAND COMPLETELY ALL INSTRUCTIONS, RULES, ETC. CONTAINED IN THIS MANUAL FAILURE TO COMPLY CAN RESULT IN ACCIDENTS INVOLVING FIRE, ELECTRIC SHOCK OR SERIOUS PERSONAL INJURY. MAINTAIN OWNERS MANUAL AND REVIEW FREQUENTLY FOR CONTINUING SAFE OPERATION, AND INSTRUCTING POSSIBLE THIRD-PARTY USER.

READ ALL INSTRUCTIONS

1.1 KNOW YOUR POWER TOOL

For your own safety, read the owner's manual carefully. Learn its application and limitations as well as the specific potential hazards peculiar to this tool.

1.2 GUARD AGAINST ELECTRICAL SHOCK BY PREVENTING BODY CONTACT WITH GROUNDED SURFACES.

For example: Pipes, radiators, ranges, refrigerator enclosures.

KEEP GUARDS IN PLACE AND IN WORKING ORDER .

REMOVE ADJUSTING KEYS AND WRENCHES

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on tool.

KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents.

DON'T USE IN DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well illuminated.

KEEP CHILDREN AWAY.

All visitors should be kept a safe distance from work area.

MAKE WORKSHOP KID PROOF.

With padlocks, master switch, or by removing starter keys.

DON'T FORCE TOOL.

It will do the job better and be safer at the rate for which it was designed.

USE RIGHT TOOL

Don't force tool or attachment to do a job for which it was not designed.

1.2.9 WEAR PROPER APPAREL

No loose clothing. Gloves, neckties, rings bracelets, or jewelry to get caught in moving parts. Nonslip footwear is recommended . Wear protective hair covering to contain long hair.

1.2.10 ALWAYS USE SAFETY GLASSES

Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact – resistant lenses. They are not safety glasses.

1.2.11 SECURE WORK

Use clamps or a vise to hold work when practical. It's safer than using your hand and frees both hands to operate tool.

1.2.12 DON'T OVERREACH

Keep your proper footing and balance at all times.

1.2.13 MAINTAIN TOOLS IN TOP CONDITION

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

1.2.14 DISCONNECT TOOLS FROM POWER SOURCE

Before servicing and when changing accessories such as blades , bits cutters or when mounting and re-mounting motor .

1.2.15 AVOID ACCIDENTAL STARTING

Make sure switch is in “OFF” position before plugging in cord .

1.2.16 USE RECOMMENDED ACCESSORIES

Consult the owner's manual for recommended accessories. Use of improper accessories may be hazardous.

1.2.17 NEVER STAND ON TOOL

Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

1.2.18 CHECK DAMAGED PARTS

Before further use of the tool , a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. check for alignment of moving parts , binding of moving parts , breakage of parts , mounting , and any other conditions that may affect its operation . A guard or other part that is damaged should be properly repaired or replaced.

1.2.19 DIRECTION OF FEED

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only .

1.2.20 NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.

Don't Leave tool until it comes to a complete stop.

The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage . Always wear safety glasses or eye shields before using your Lathe . We recommend wide vision safety mask for use over spectacles , or standard safety glasses .

2.SAFETY RULES FOR LATHES

Safety is a combination of operator common sense and alertness at all times when Lathe is being used . Study these safety rules and general safety rules before operating and retain for future use .

2.1 Wear eye protection .

2.2 Never attempt any operation or adjustment if procedure is not understood .

2.3 Keep fingers away from revolving parts and cutting tools while in operation .

2.4 Never force cutting action .

2.5 Never perform an abnormal or little used operation without study and use of adequate blocks , jigs stops , fixtures ect .

2.6 Use of shop manual such as “ Machinery's Handbook ” or similar is recommended for cutting speeds feeds and operation detail .

2.7 Do not remove drive cover while machine is in operation . Make sure it is always closed .

2.8 Always remove chuck key , even when machine is not in operation .

2.9 Do not attempt to adjust or remove tools when in operation .

2.10 Always keep cutters sharp .

2.12 Never use in an explosive atmosphere or where a spark could ignite a fire.

2.13 Always use identical replacement parts when servicing.

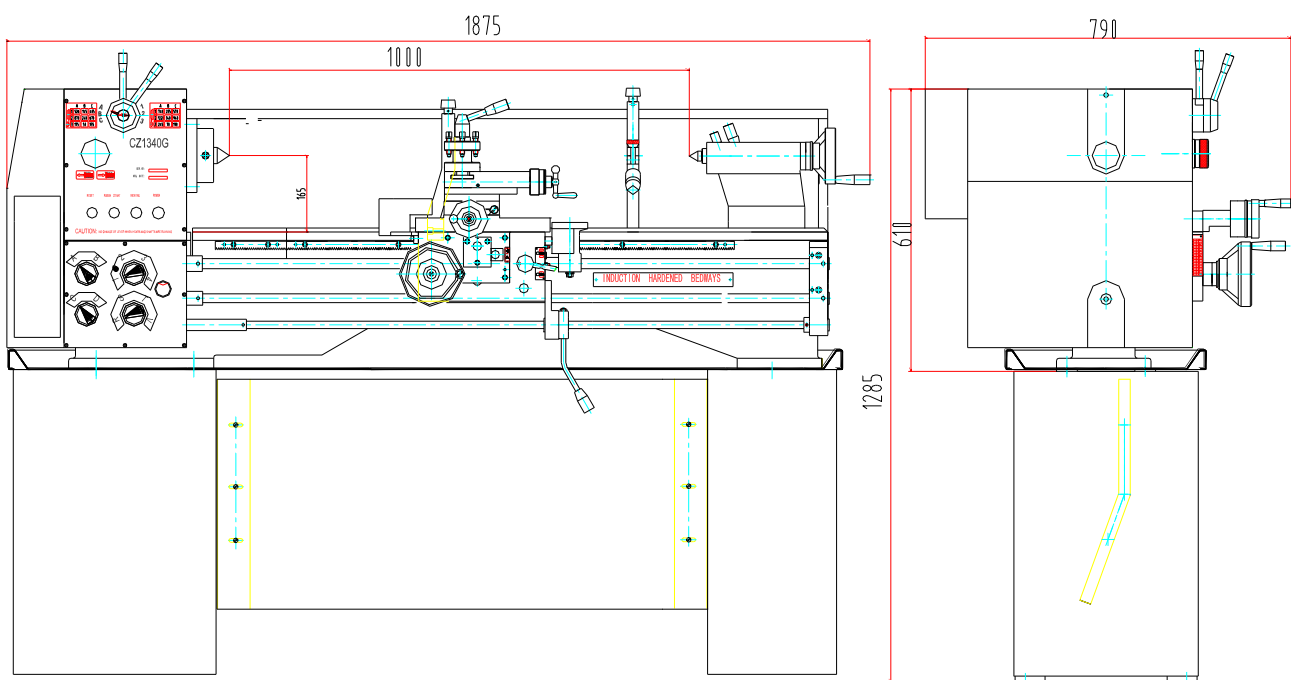


DO ALLOW FAMILIARITY (GAINED FROM FREQUENT USE OF YOUR LATHE) TO BECOME COMMONPLACE. A CARELESS FRACTION OF A SECOND CAN ALLOW FOR SEVERE INJURY.

3.MACHINE SPECIFICATION

Bench lathes are especially suitable for machining workshops, tool rooms and repairing workshops to machine shafts spindles, sleeves and disc workpieces of middle or small types. They can also be used to cut imperial, diameter and module threads. And with compact construction and reasonable composition, they can cut very well. They are easy and reliable to operate, convenient to repair, high in efficiency, and low noise. Hardened with supersonic frequency heat-treatment. The bed sliding and the gears are wear-resisting. The apron have both the left hand and right hand type . Their construction is the same . It is optional.

Overall measurement:



TECHNICAL DATA

Capacity Dimension

Swing Over Bed -----12.99"(330mm)

Over Cross Slide -----7.68"(195mm)

Through Gap -----18.74" (476mm)

Distance Between Centers-----39-1/3"(1000mm)

Bed Width -----7-3/8"(187mm)

Length -----65-1/3"(1658mm)

Height -----11-13/32"(290mm)

Main Motor -----2HP

Headstock

Spindle Bore -----1-1/4"(38mm)

Nose ----- D 1-4" ASA std.(ISO)

Taper in nose-----M.T..5

Number Of Spindle Speeds-----8

Range Of Spindle Speeds -----70-2000 r.p.m

Carriage & toolpost

Cross slide Width -----4-5/8"(118mm)

Travel -----6-5/16"(160mm)

Toolpost Width -----3"(76mm)

Travel -----2-11/16"(68mm)

Leadscrew Diameter -----7/8" (22mm)

Thread -----8T.P.I. or 3mm pitch

Diameter Of Feed rod -----3/4"(19mm)

Max. section Of Cutting Tool -----5/8"H5/8"(16mm H 16mm)

Threads & Feeds

Threads

Imperial pitches ----- 40 Nos. 4-112 T.P.I.

Metric pitches -----23Nos. 0.25-11mm

Longitudinal Feeds Imperial ----- 0.002-0.0548"/rev

Metric ----- 0.091-2.553mm/rev

Cross feeds Imperial ----- 0.00055 -0.015"/rev

	Metric -----	0.025-0.69 mm/rev
Tailstock	Quill Diameter -----	1-1/4" (32mm)
	Travel -----	3-3/4"(95mm)
	Taper -----	M.T.3
Weights (NW/GW)	-----	869lb/1089lb
(With machine stand)	-----	1309lb
Packing size (LHWHH)	-----	75.59"*29.92"*29.92"

4.UNLOADING

Unpack the wooden case first and use the bed clamping plates and eyebolts to sling the lathe. Position the saddle and tailstock along with the bed to keep the balance. Make sure not to hit the leadscrew, spindle or other long rods and handwheel, when the machine is unloaded.

4.1Cleaning

Before operation and controls. Remove the anticorrosion coating from all uncovered machine parts, Use white spirit or kerosene (paraffin). Do not use lacquer thinner or other caustic solvents. Oil all bright machined surfaces immediately with lubricating oil after cleaning. Use heavy oil or grease on the change gears.

4.2 Setting up the machine

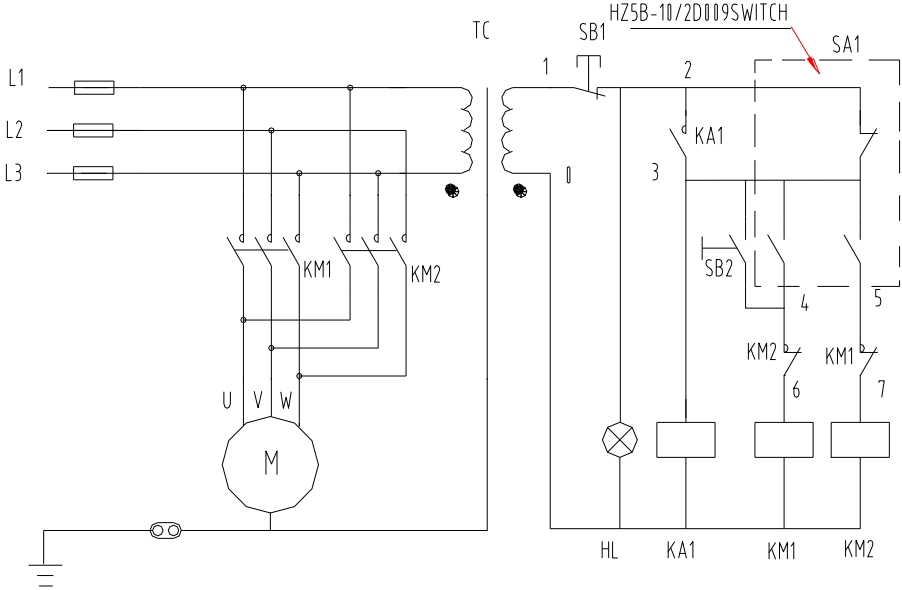
Locate the machine on a solid foundation, (A concrete floor is the best for the machine), allowing sufficient area for easy work and maintenance. The machine may be used when it is free standing, but for maximum performance it should be bolted down with four M12 foundation bolts. Use an engineer's precision level on the bedways to make further adjustment for level conditions.

4.3 Electrical supply

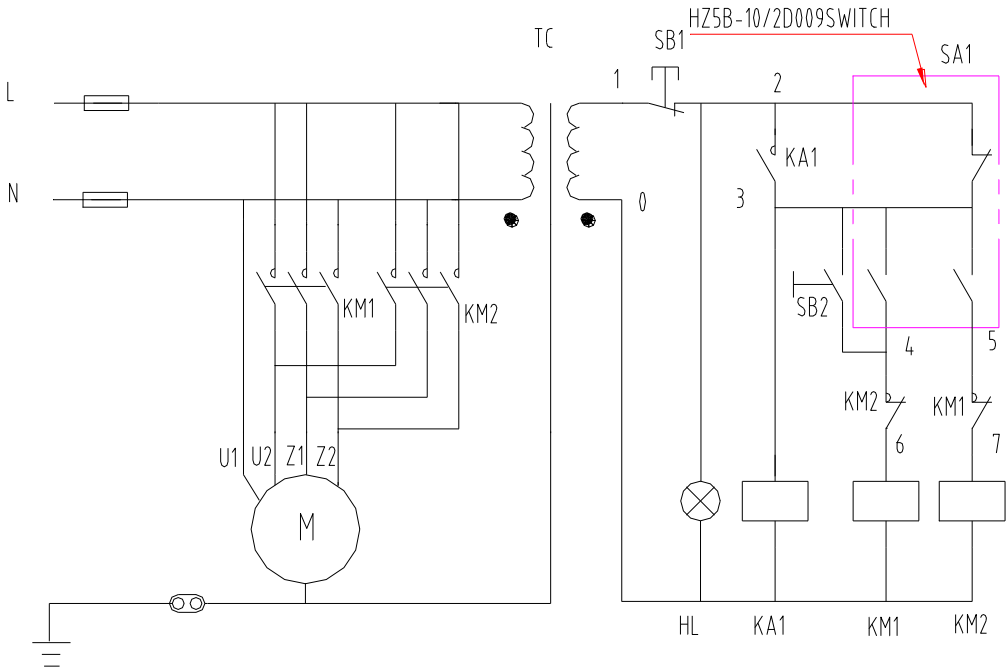
Power should be supplied through a separate isolator, the input wires are connected to main terminals at the back of the headstock. Check that the operating voltage and frequency given on the type plate corresponds to the local mains voltage and frequency. Connect fuse between the power source and switch, earth with machine.

Main motor rotation must be clockwise, viewed from the pulley end (spindle must be anti – clock wise by looking from tailstock end) . In case that the motor is running in a wrong direction, interchange any two of the three phase lines.

Electrical wiring diagram



3 phases



Single phase

SIGN	NAME		TYPE
M	Motor	3 phase	Y90L-4
		Single phase	YC100L-4
KM	AC magnetic contactor		LC1-D129 (3 phase)
			LC1-D259(single phase)
KA1	Relay		CA2-DN22
TC	Transformer		JBK3-63
SA1	Power switch		HZ5B-10/2D009
SB1	Emergency stop button		LA25-01ZS
SB2	Job button		LA25-10
HL	Power indicator light		AD11-30/20

5.LUBRICATION SYSTEM

(A)Head stock

Ensure that the head stock is filled to the level of the relevant oil sight glass with Tellus 32 of Shell oil.

For exchanging the oil in headstock , remove all oil by taking off the drain plug , which is fitted at the bottom left hand end of the head stock , accessible after removal of the end cover and the change gears with swing frame . Open the headstock cover to fill the oil, check oil level weekly and change the oil 3 months after first use , then change it once a year .

(B)Quick change gearbox

The bearings and gears should be oiled daily from the top . Remove the cover to expose the filling nipples.

(C)Apron

Ensure that the apron is filled to the correct level of the oil sight glass with Tellus 32 of shell oil .

Check the oil level weekly and first oil change after 3 months use , farther oil change once a year .

For exchanging the oil in apron , drain away all oil by taking off the drain plug , which is fitted on the bottom of the apron .

Fill the oil by taking off the inlet cap, which is fitted at the top on the right hand side of the apron .

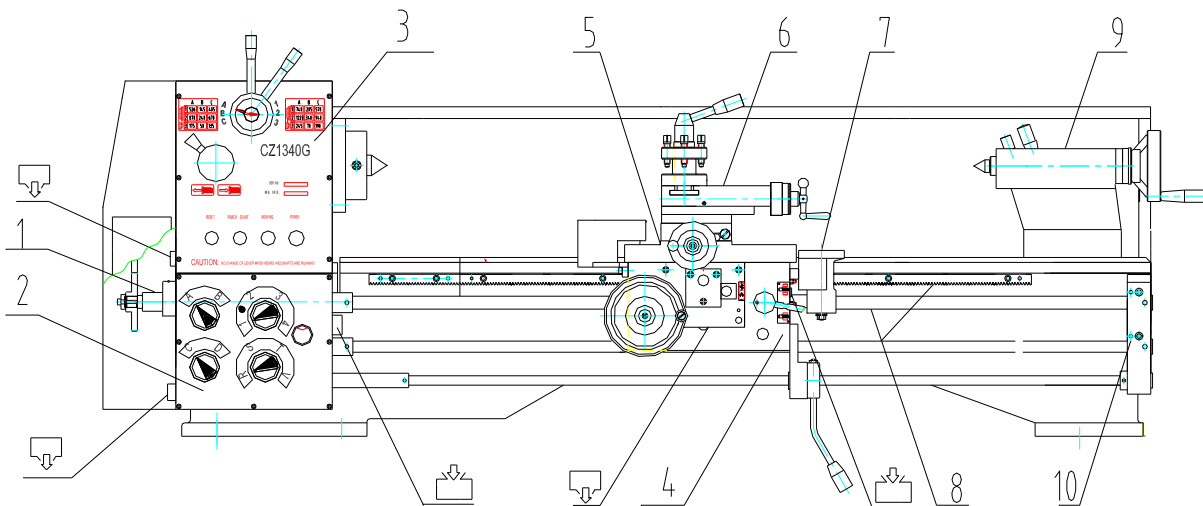
(D) Change gears

Lubricate the change gears with thick machine oil or grease once a month .

(E) Other portions

There are oil inlets on input shaft bracket of gearboxs , handwheel bracket of apron , feed rod bracket of carriage , saddle , cross slide , toolpost, thread dial indicator , tailstock and the bracket which holds the leadscrew & feed rod . handing oil is required from time to time . Lubricate the apron worm & worm gear, half nut & leadscrew twice a month . Apply a light oil film to the bed ways and all other blank parts such as tailstock quill, feed rod etc . once a day .

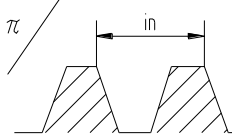
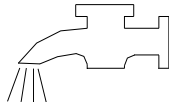
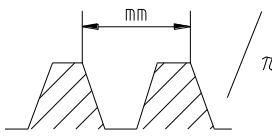
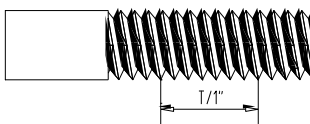
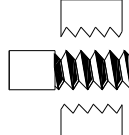
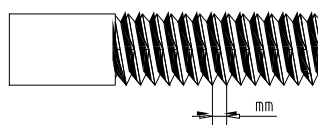
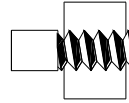
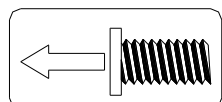
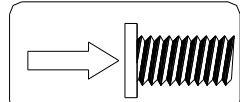
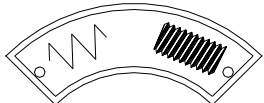
Lubrication diagram



Lubrication table

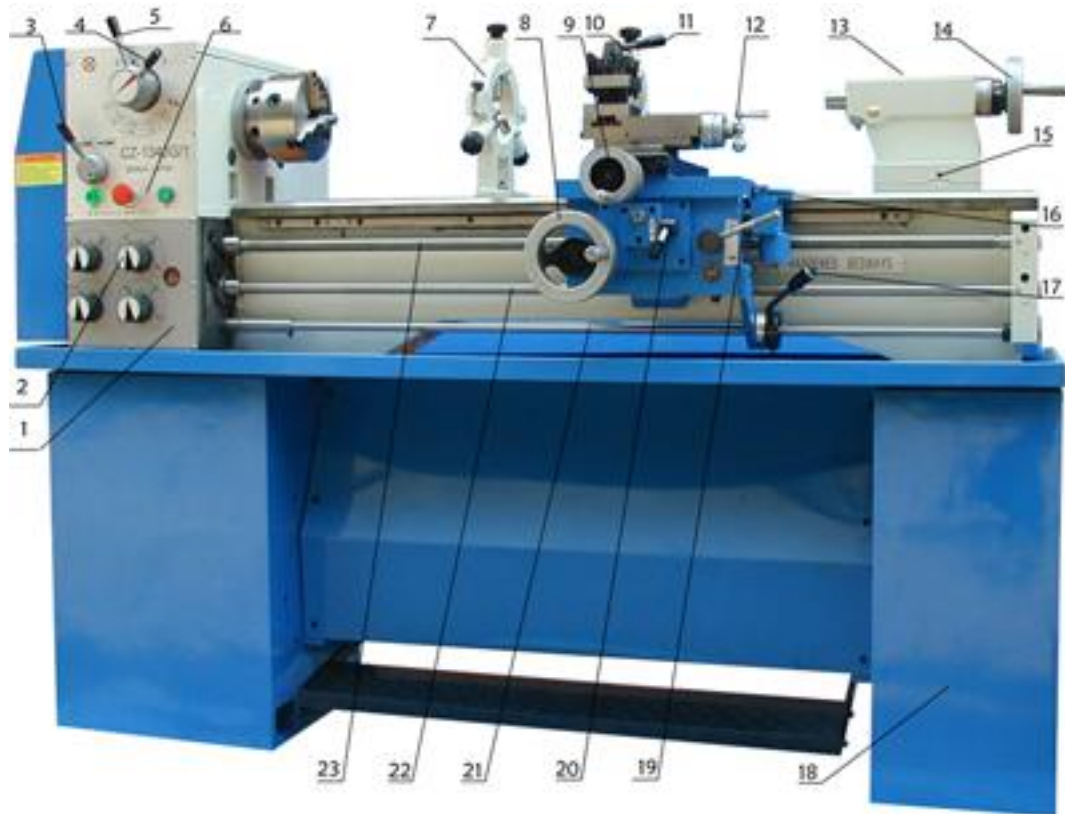
No.	Lubrication parts	Number of lubricating points	Oil	Date of filling oil	Date of changing oil
1	Input shaft of gearbox	1	32#	Once a day	
2	Gearbox	1	32#		First change after 3 months, then, once a year
3	Headstock	1	32#		
4	Apron	1	32#		
5	Carriage	5	32#	Once a day	
6	Tool post	3	32#	Once a day	
7	Thread dial indicator	1	32#	Once a day	
8	Leadscrew Feed rod	2	32#	Once a day	
9	Tailstock	3	32#	Once a day	
10	Support seat	2	32#	Once a day	

Operation symbols for operation

	Electrical (Danger)		Diametral pitch thread
	Coolant		Module pitch thread
	Imperial thread		Half nut opened
	Metric thread		Half nut closed
	Right-hand thread and longitudinal feed toward the Headstock side		Left-hand thread and longitudinal feed toward the tailstock side
	Cross feed engaged (upward) All feeds disengaged (central) Longitudinal feed Engaged (downward)		Feeding (left figure) Threading (right figure)

6.WORKING WITH MACHINE

Operation diagram



- 1.Forward/reverse switch 2.Handle 3.Feed direction selector
- 4.Four steps speed selector 5.Low/high speed selector 6.Knob component
- 7.Steady rest 8.Longitudinal traverse hand wheel 9.cross traverse hand wheel
- 10.Follow rest 11.Toolpost handle 12.Toolpost traverse handle
- 13.Tailstock quill clamping lever 14.Tailstock quill traverse hand wheel
- 15.Tailstock set-over screw 16.Thread dial indicator 17.Controlling lever
- 18.Machine stand 19.Thread cutting engagement lever 20.Feed axis selector
- 21.Controlling rod 22.Feed rod 23.Lead screw

6.1 SPINDLE SPEED CONTROL (refer to operation diagram)

A. Identification before operation

- (1) Ensure that lubrication has been carried out in accordance with the lubrication charts.
- (2) When rotating the spindle, it is mechanized to the gear box and apron. Check that the forward / reverse switch (No. 1) or the knob component (No.6) (when it is mounted by option) is in the Stop position ; the feed axis selector (No.20) and the thread cutting engagement lever (No.19) are in disengaged position . Under the circumstances, both the longitudinal traverse hand wheel (No.8) and the cross traverse hand wheel (No.9) can be easily operated by hand .

B. Rotation of spindle

Rotation of spindle is selected by the forward / reverse switch (No.1) .

C. Speeds of spindle change

The speeds of spindle are changed by means of HIGH / LOW speed selector (No.5) and four steps speed selector (No.4) . The spindle's speed chart shows 4 steps speeds in both high and low speed position. We can choose a proper revolution by operating the speed selector according to the spindle's speed chart . When the speed selector (No.5) is in the high position , we can get four speeds referring to the high speed portion of the graph .

Transference of the spindle speeds should be made after the spindle rotation is completely stopped.

(Engagement of the drive gears may be assisted by manually turning the chuck)

D. Running in

Alternatively a running – in procedure should be adopted as follow ;

Make a low feed rate selection and run the machine light

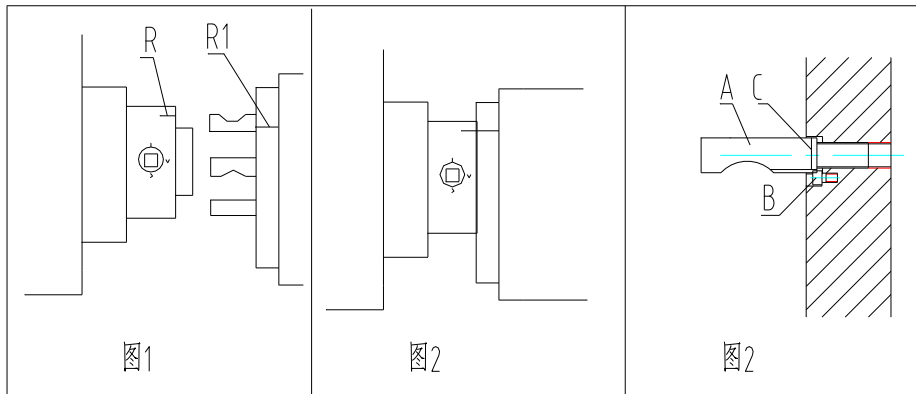
For 3 hours at 460 r .p .m

Then for 2 hours at 755 r .p .m

Then for 1 hour at 1250 r .p .m

6.2 SPINDLE NOSE (CAM LOCK D1-4")

MOUNTING OF CHUCKS, FACEPLATES AND OTHER SPINDLE MOUNTED ATTACHMENTS



Ensure that the location faces on both nose and attachment are scrupulously cleaned.

Check that all the cams are in the release position (fig . 1)

Mount the attachment on to the spindle nose and lock each cam by turning it clockwise using the key provided.

A reference line R1 (fig .1) should be scribed on each chuck or faceplate to coincide with the reference line R on the spindle nose. assists subsequent re-mounting .

NOTE : For correct locking conditions each cam must tighten with its index line between the two vee marks on the nose (Fig .2)

DO NOT INTER CHANGE CHUCKS OR OTHEY SPINDLE MOUNTING ITDMS BETWEEN LATHES WITHOUT GHECKING EACH CAM FOR CORRECT LOCKING TO ADJUST CAM LOCK STUDS

Remove Lockscrew (B)

Turn Stud (A) one full turn in or out as required

Refit and tighten leadscrew (B) (fig . 3)

Note : A datum ring (C) is marked on each stud as a guide to the original or initial setting .

6.3 FEED AND THREAD SELECTION (refer to operation diagram)

All feeds and threads are given on the feed and thread tables, fitted on the front of the end cover, by setting the feed selector handle.

(A) Hand feed operation

The movement of carriage is made by the longitudinal feed hand wheel(No.8), cross slide by the cross feed hand wheel(No.9) and tool post by the tool post feed

handle (No.12) The carriage is anchored by turning the carriage lock in clockwise direction.

(B) Replacement of change gears.

Open the end cover firstly, Then loose both the hexagon nut of the clamping bolt and the clamping screw of the swing frame to exchange the transmission shaft gear with another gear. And the change of driven gear is made by loosening the 120T and 127T gear shaft clamping nut . it is necessary for suitable backlash to intermediate the gears in both cases .

(C) Automatic feed operation and feed change.

Firstly, operate the feed direction selector(No.3) at the headstock . Next, select a value of feed, set the positions of 4 handles according to the feed chart. then, the feed axis selector (No.20) is pushed out and operated upward , a longitudinal feed can be obtained . On the contrary, if the selector (No.20) is pushed in and operated downward, across feed will be obtained .

Feed direction can be changed by feed direction selector (No.3) at the headstock . 32 kinds of feed speeds each in longitudinal and cross feed are obtained by feed / thread selector (No.2).

*ATTENTION: To avoid rotation of lead screw, the handle must point to the black dot when feeding.



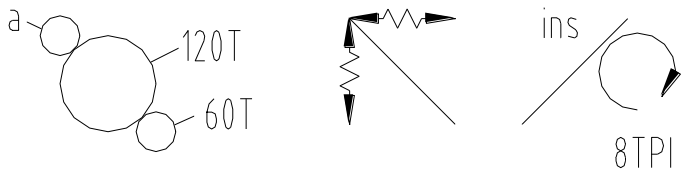
(D) Thread cutting operation

Thread cutting is realized by operating 4 handles(No.2) according to the thread chart, and operating the thread cutting engagement lever (No. 19) downward . It should be engaged with leadscrew in order to obtain the longitudinal travel of carriage, namely the thread cutting feed .

Direction of thread cutting is controlled by feed direction selector (No.3) at the headstock . The thread pitch can be selected by the position of 4 handles(No.2).

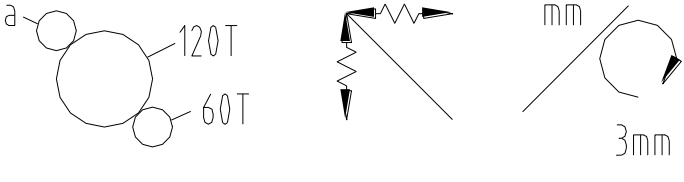
(1) Feed table

a. Longitudinal and cross feed table in imperial lead screw .



a		60T				30T			
LEVER		T	S	R	V	T	S	R	V
A	D	.0548	.0512	.0411	.0328	.0274	.0256	.0205	.0164
		.0187	.0175	.0140	.0112	.0094	.0087	.0070	.0056
B	D	.0274	.0256	.0205	.0164	.0137	.0128	.0102	.0082
		.0094	.0087	.0070	.0056	.0047	.0044	.0035	.0028
A	C	.0137	.0128	.0102	.0082	.0069	.0064	.0051	.0041
		.0047	.0044	.0035	.0028	.0024	.0022	.0017	.0014
B	C	.0069	.0064	.0051	.0041	.0034	.0031	.0025	.0020
		.0024	.0022	.0017	.0014	.0012	.0011	.0009	.0007

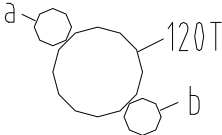
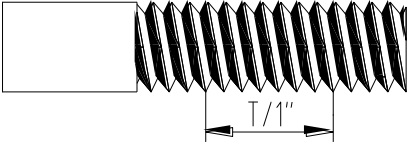
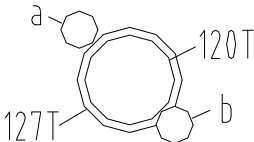
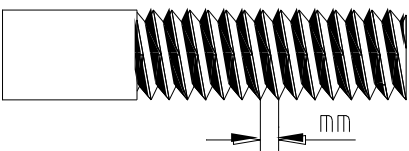
b. Longitudinal and cross feed table in metric lead screw.



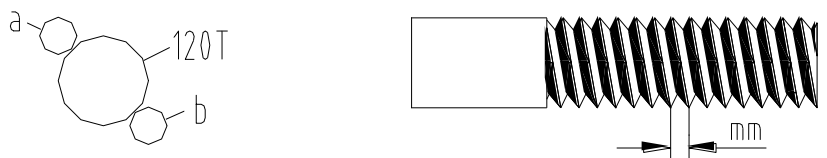
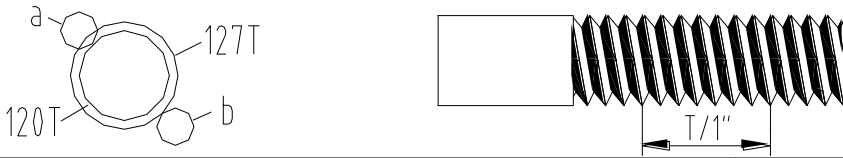
a		60T				30T			
LEVER		T	S	R	V	T	S	R	V
A	D	1.392	1.300	1.044	.835	.696	.650	.522	.418
		.380	.351	.282	.226	.188	.175	.141	.113
B	D	.696	.650	.522	.418	.348	.325	.261	.208
		.188	.176	.141	.113	.094	.088	.070	.056
A	C	.348	.325	.261	.208	.174	.162	.130	.104
		.094	.088	.070	.056	.047	.044	.035	.028
B	C	.174	.162	.130	.104	.087	.081	.065	.052
		.047	.044	.035	.028	.024	.022	.017	.014

(2) Thread table

a. Thread table for imperial lead screw.

  8TPI										
a		60	60	60	60	60	60	56	60	60
b		60	54	57	60	66	69	54	78	63
LEVER		4	1	1	1	1	1	2	1	3
		V	V	V	V	V	V	V	V	V
A	D	4	4 1/2		5	5 1/2		6	6 1/2	7
B	D	8	9	9 1/2	10	11	11 1/2	12	13	14
A	C	16	18	19	20	22	23	24	26	28
B	C	32	36	38	40	44	46	48	52	56
  8TPI										
a		56	60	60	30	60	60	30	60	56
b		60	60	60	60	60	60	60	60	63
LEVER		4	1	3	4	1	3	1	3	3
		R	R	S	T	V	R	T	V	V
A	D	7.0	6.0		5.0		4.5	4.0		
B	D	3.5	3.0		2.5		2.25	2.0	1.8	1.6
A	C	1.75	1.5	1.4	1.25	1.2		1.0	0.9	0.8
B	C		0.75	0.7		0.6		0.5	0.45	0.4

b. Thread table for metric lead screw.

									
a	56	60	60	30	60	60	30	60	56
b	60	60	60	60	60	60	60	60	63
LEVER	4	1	3	4	1	3	1	3	3
	R	R	S	T	V	R	T	V	V
A	D	7.0	6.0		5		4.5	4.0	
B	D	3.5	3.0		2.5		2.25	2.0	1.8
A	C	1.75	1.5	1.4	1.25	1.2		1.0	0.9
B	C		0.75	0.7		0.6		0.5	0.45
									
a	60	60	60	60	60	60	56	60	60
b	60	54	57	60	66	69	54	78	63
LEVER	4	1	1	1	1	1	2	1	3
	V	V	V	V	V	V	V	V	V
A	D	4	4 1/2		5	5 1/2		6	6 1/2
B	D	8	9	9 1/2	10	11	11 1/2	12	13
A	C	16	18	19	20	22	23	24	26
B	C	32	36	38	40	44	46	48	52

(E) Threading dial indicator

Threading dial indicator (No.16) is installed on the right hand side of apron. The indicator is used for thread cutting to engage with lead screw . To cut threads on the chart, close the lead screw nut at the appointed line of the dial according to the indicator chart, Ensure the appropriate dial line coincide exactly with fixed point each pass .

For minimum wear the thread dial indicator should be disengaged, swinging the

gear of mesh with the lead screw tightly when out in use.

a. IMPERIAL THREADS ON IMPERIAL LEADSCREW MACHINES OR
METRIC THREADS ON METRIC LEADSCREW MACHINES

For these threads it is recommended that the thread dial indicator be used this allows the half nut of lead screw to be engaged at the end of each thread cutting pass, provided that are reengaged in accordance with the indicator table mounted on the left hand side of the apron .

b. IMPERIAL THREADS ON METRIC LEADSCREW MACHINES OR METRIC
THREADS ON IMPERIAL LEADSCREW MACHINES AND DIAMETRAL
PITCH, MODULE PITCH THREADS ON IMPERIAL OR METRIC
LEADSCREW MACHINES

For these threads the half nut is kept engaged throughout the cutting of any one thread. This involves reversing the whole drive by means of the spindle forward /reverse switch (No. 3) at each end of the thread cutting pass while at the same time relieving or increasing the cut as required .

7.LATHE ALIGNMENT

When the lathe is installed and ready for use , it is recommended to check the machine alignment before starting work .

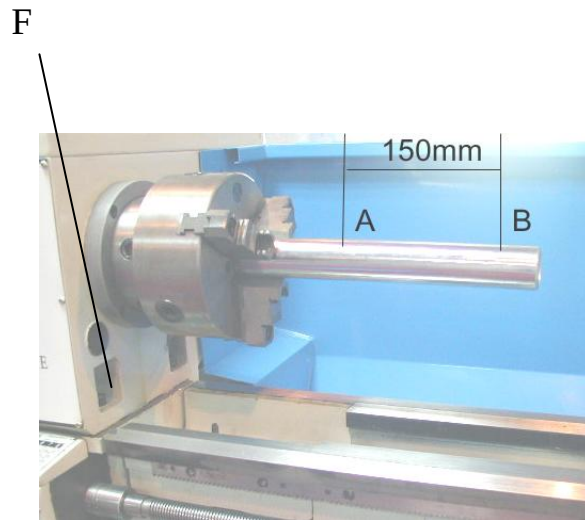
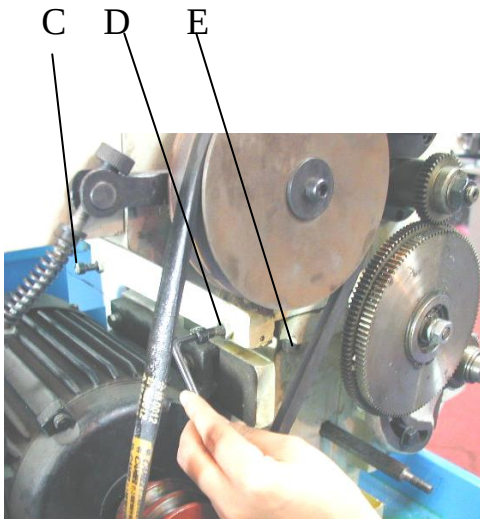
Alignment and leveling should be checked regularly to ensure continued accuracy.

(A) Headstock

If headstock appears that the alignment is not correct any more , proceed as follows :

Take a steel bar with a diameter of appr.50mm and a length of appr.200mm. Span it in the chuck without using the center.

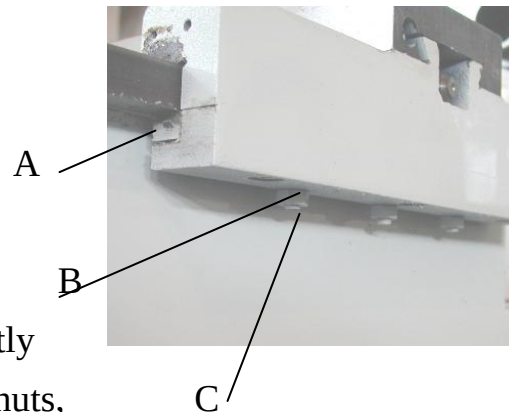
Then cut off a chip over a length of 150mm and measure the difference in A and B . To correct a possible difference, loosen the screws (E,F) clamping the headstock on the bed . Adjust the headstock with set screws (C,D) . Tighten all screws and repeat the above procedure until all measurements tally. The lathe will be cutting correctly.



(B) Saddle strip

Wear on the rear saddle gib strip (A) may be accommodated by adjustment of the socket head set screws .

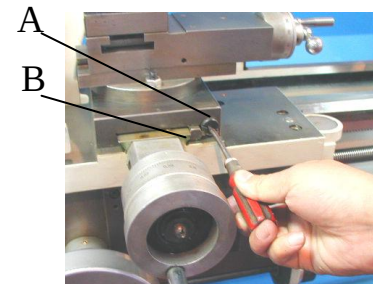
The procedure for adjustment is to first release the hexagon nuts (B) and turn the socket head set screws(C) slightly in clockwise and then reclamp the hexagon nuts,



Care should be taken to avoid over adjustment 45° turn at the socket head set screw approximately 0.125mm (0.05") taken up in the gib.

(C) Cross slide

Wear on the taper gib strip(B) may be adjusted for by clockwise rotation of the slotted head screw(A) on the front of the cross slide . The procedure is to first slacken the similar screw at the rear end, retighten this after adjustment to clamp the gib in its new position.



(D) Toolpost

It is the same procedure as cross slide .

(E) Cross slide nut

Provision is made for the elimination of back lash in the cross slide nut .

the procedure for adjustment being as follows .

Take off the anti-dust plate which is mounted on the rear face of saddle groove , turn the cross traverse handle by clockwise to move the cross feed nut until it reaches



the end edge of the feed rod . Turn the socket head cap screw in a clockwise direction as require. Care should be taken to avoid over adjustment ; every 45° turn at the socket head cap screw represents approximately 0.125mm (0.05") taken up of back lash .

(F) Cross slide and toolpost

Toolpost is carried on a rotatable swivel table fitted as standard onto the cross slide, and the top of cross slide is graduated both - $45^{\circ} \sim 0$ and $0 \sim 45^{\circ}$ for accurate indexing of swivel table.

Handle dials are graduated in Imperial or Metric division to suit the operating feed screw and nut fitted.

(G) Tailstock

Tailstock can be set over for the production of shallow tapers or for realignment by means of the tailstock set – over screw which are mounted in each slide of the tailstock body, a similar but location screw is fitted in the rear face of the body .

Set – over adjustment is made as follows :

Unclamp the tailstock by operating the clamp lever downward .

Slacken the rear location screw .

Then alternatively slacken one set – over screw and tighten the other until the required setting is achieved .

Tighten the rear location screw and the set – over screw which is slackened before, and reclamp the tailstock.

The quill of tailstock is locked by operating the quill clamping lever.

8.PREVENTIVE MAINTENANCE

8.1 DAILY INSPECTION

In principle the daily. Inspection of lathe is carried out on basis of each shift.

The inspection work according to the following item 1.1

1.1 Check before starting the motor.

1) Clean-up of machine: dust, chips and other articles should be removed from sliding surface of machine to make the rotating or sliding parts performing easy and smoothly. All other static parts be often also cleaned to avoid the corrosion.

2) Greasing and oiling : regular oiling should be done every day (see

lubrication plan sheet) to keep the machine properly lubricated.

- 3) Check all the running parts not too tight, or loose. Bearing of headstock, longitudinal and cross feed, tool holders etc would be examined and adjusted by hand or proper fitness.
- 4) Check the sensitivity & reliability of all manual control levers: To try the speed change rate function of headstock feeds and apron in gear box and inspect their starting, stopping and forward & reverse action whether they are sensitive and reliable or not.
- 5) Fixture and fig of headstock, tailstock and tool holder tight clamping between tailstock and bed surface, close running fit of spindle in tailstock, clamp bolts of tool holder, and figs on headstock.

8.2 Check after starting the machine.

- 1) To check electrical control system: Try to put “on” and “off” button and examine the sensitiveness of starting, stopping and pilot lamp strictly.
- 2) The sensitivity and reliability of mechanical control device: control levers for forward and reverse main spindle, automatic feeds and threads change should be sensitive and reliable. Automatic control devices for longitudinal and cross feed, gear change, threads change, carriage, and spindle direction change should be accurate also.
- 3) Limitation of noise and vibration: when starting max. speed of headstock spindle on no loading basis, check the noise and vibration whether they are over specified limit or not.
- 4) Coolant system: check the quantity of coolant oil and start the oil pump for inspecting its function and leakage.
- 5) Lubricating system.

Examine all lubricating system carefully and ensure all flowing line without obstacles.

8.3 Caution during operation:

- 1) Temperature of bearing.

Tough the main bearing by hand and feel the temperature is normally or not.

- 2) Temperature of motor:

To feel the temperature of motor bearing at the case of full load.

3) Noise and vibration:

If you find the noise and vibration of the machine are abnormal or irregular. Stop the machine immediately for inspection and adjustment.

4) Quality of products:

If you discover the quality of products is out of limit, stop the machine at once for finding the causes of defects.

5) Safety affairs:

- a. Must stop operation when you leave the machine.
- b. When changing main spindle speed or feeding speed stop running first.
- c. All tools and products are strictly not allowed to be left on sliding surface of bed.

8.4 Check after operation

1) Cleaning and collection of all tools:

All tools should be kept clean first then put back to original position.

2) Proper position of tailstock, carriage & tool holder:

Tailstock, carriage & tool holder should be placed to proper position:

3) Clean-up machine:

All of the oily matters, chips etc, on the machine should be removed completely and put a thin lubricating oil on the sliding surface of machine to prevent the corrosion.

8.4.1 WEEKLY INSPECTION

1) Lubricating system:

Clean-up the whole lubricating system and replenish with fresh lubricating oil.

2) Cooling system:

Clean-up the whole cooling system and replenish with new cooling fluid.

3) Transmission system:

Check the damage of rubber V-belt and readjust the tensile strength of V-belt.

8.4.2 MONTHLY INSPECTION:

- 1) Dismantle and clean all the dust, chips and foreign matter from moving parts.

- 2) Electrical system: Carefully examine the connection of all electrical wires, terminals and switches, which occasionally have been damaged by chips or others.

8.4.3 SEMI-YEARLY INSPECTION:

- 1) Change oil in gear box:

Remove the used oil from gear box of headstock, feed and replenish with fresh oil.

- 2) Check the wear and tear of all gears in gears and packing:

Inspect the damage of all gears in various box. Spindle and bearings, and packing. Repair or replace it if necessary.

- 3) Check the clearance fit of complicated feed mechanism:

Check the clearance fit between feeding screw lever and nut and main screw spindle and nut whether they are right or not.

- 4) The stability of machine body:

Tighten up the foundation bolts of machine body to the ground and make the body stable.

8.4.5 YEARLY INSPECTION:

- 1) Positioning and leveling:

According to the inspection regulation, recheck the positioning and leveling after once year service.

- 2) Inspection for accuracy:

According to the regulation, inspection work for accuracy should be rechecked, if the accuracy is over specified limit, the adjustment or alignment will be done accordingly.

- 3) Bearing inspection:

Reexamine the insulating materials and clearance fit & lubrication of all bearings.

- 4) Inspection for appearance:

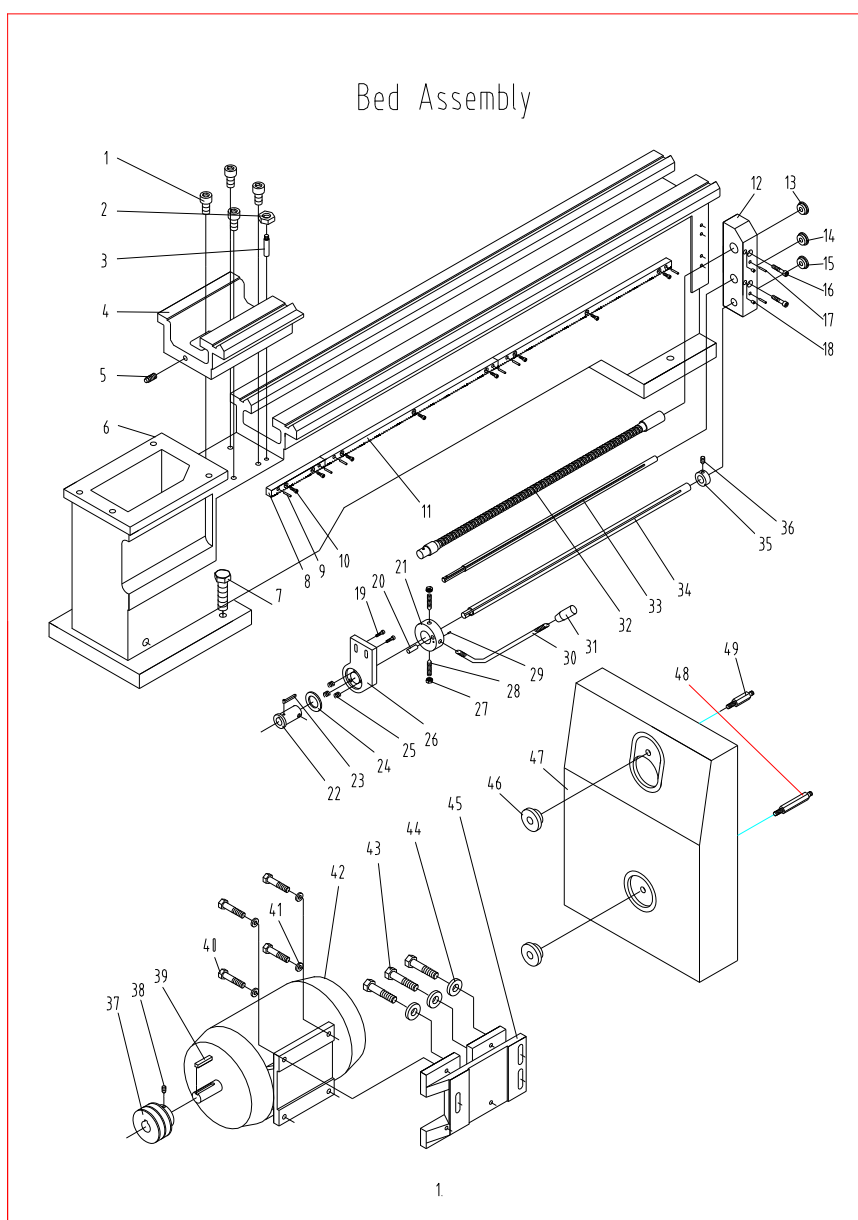
- a. If paint is peeled off, repaint it with the same color.
- b. Check the exposed parts whether they have been damaged, corroded, or deformed, repair or replace them if necessary.

9.TROUBLE SHOOTING

TROUBLE	PROBABLE CAUSES	REMEDY
Overheat of headstock bearing	1.Oil level in headstock is too low or too high.	Check the oil level and replenish or discharge the oil to the proper level.
	2.Quality and viscosity of oil is wrong.	Replace the oil with recommended one.
	3.Oil is too dirty	Replace oil.
	4.Oil hole in bearing obstructed by dirt.	Remove the dirt from the oil hole.
	5.Bearing obstructed by dirt	Clean the bearing and renew it.
	6.Badly worn bearing.	Replace bearing.
	7.Bearing in its not improper position.	Dismantle and reassemble it.
	8.Bent or sprung main spindle.	Replace main spindle.
	9.Too much end thrust.	Adjust thrust nut.
Oil leakage from gear box.	10.Plug of drain not tightly.	Remove, recement threat; replace and tighten.
	11.Headstock cracking.	Repaired special welding.
	12.Leakage from overflow headstock cover.	Tighten cover screw or replace gasket.
	13.Leakage from overflow spindle bearing house.	Replace oil ring.
Excess noise of vibration of machine	14.Badly worn bearing.	Replace bearing.
	15.badly worn gear.	Replace gear.
	16.Bent or sprung shaft.	Replace shaft.
	17.Lose of foundation bolts.	Tight foundation bolts.

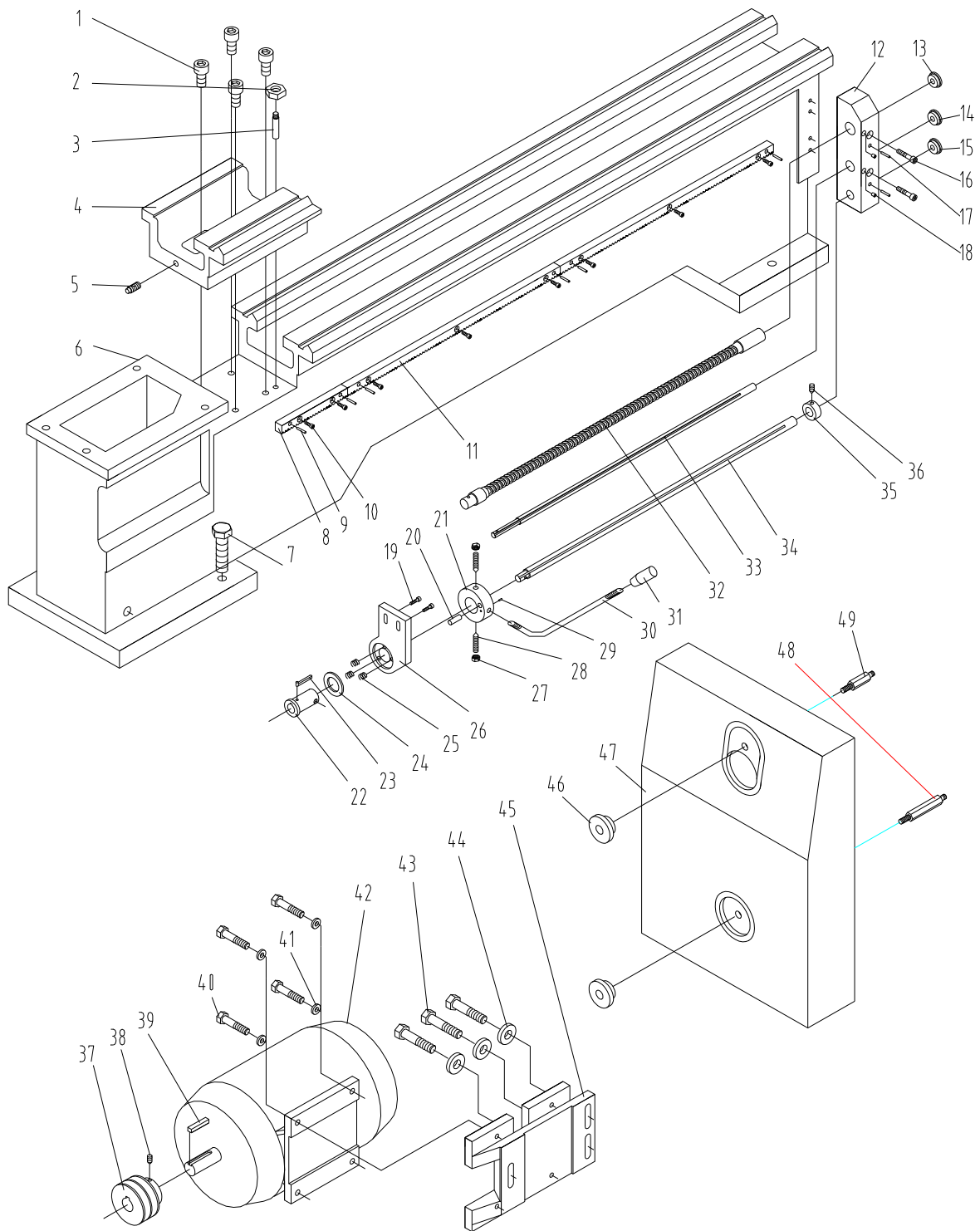
Chatter	18.Clamp of workpiece in from loose status.	Tighten clamp.
	19.Spindle bearing thrust too loose.	Adjust bearing thrust.
	20.Headstock is not tight with bedway.	Tighten headstock screw.
	21.Excess clearance between carriage	Adjust carriage back clamp.
	22.Excess clearance in cross or compound slide.	Adjust carriage back clamp.
	23.Cutting angle of cutting tool is not correct.	Regrind tools to cutting angles.
	24.Edge of cutting tool has been worn-out.	Regrind cutting tool.
	25.Weak of tool shank and too long for extension.	Replace with rigid tools or reset the tools.
	26.Tool fixed to holder not tight enough.	Tighten tool again.
	27.Unbalances of workpiece or chuck when high speed revolution.	Balance or reduce spindle speed revolution.
	28.Front point of cutting tool not in correct position.	Reset cutting tool.
Bending when long workpiece cutting	29.Feed value too large.	Reduce feed value size.
	30.Workpiece too thin or too long.	Use follow rest and adjust position of tool.
Accuracy of product fails.	31.Accuracy fails in machining.	Check the accuracy of correlation between products and machine.
Uneasy to hold gear change lever.	32.Set spring broken or too weak.	Adjust adjusting screw or replace the spring.

Misalliance of chuck with main spindle.	33.Incorrect position of cam.	Adjust cam and lock in proper position.
Uneasy to cut the thread	34.Excessive clearance of lead screw in axial direction.	Adjust the thrust nut of the lead screw holder.
	35.Excessive clearance between saddle or cross slide or cross slide and tool post slide.	Adjust slide gib to proper position.
	36.Worn thread or nut in	Adjust or replace it.



set bushing of
 .
 adjusting nut
 lock.

Bed Assembly



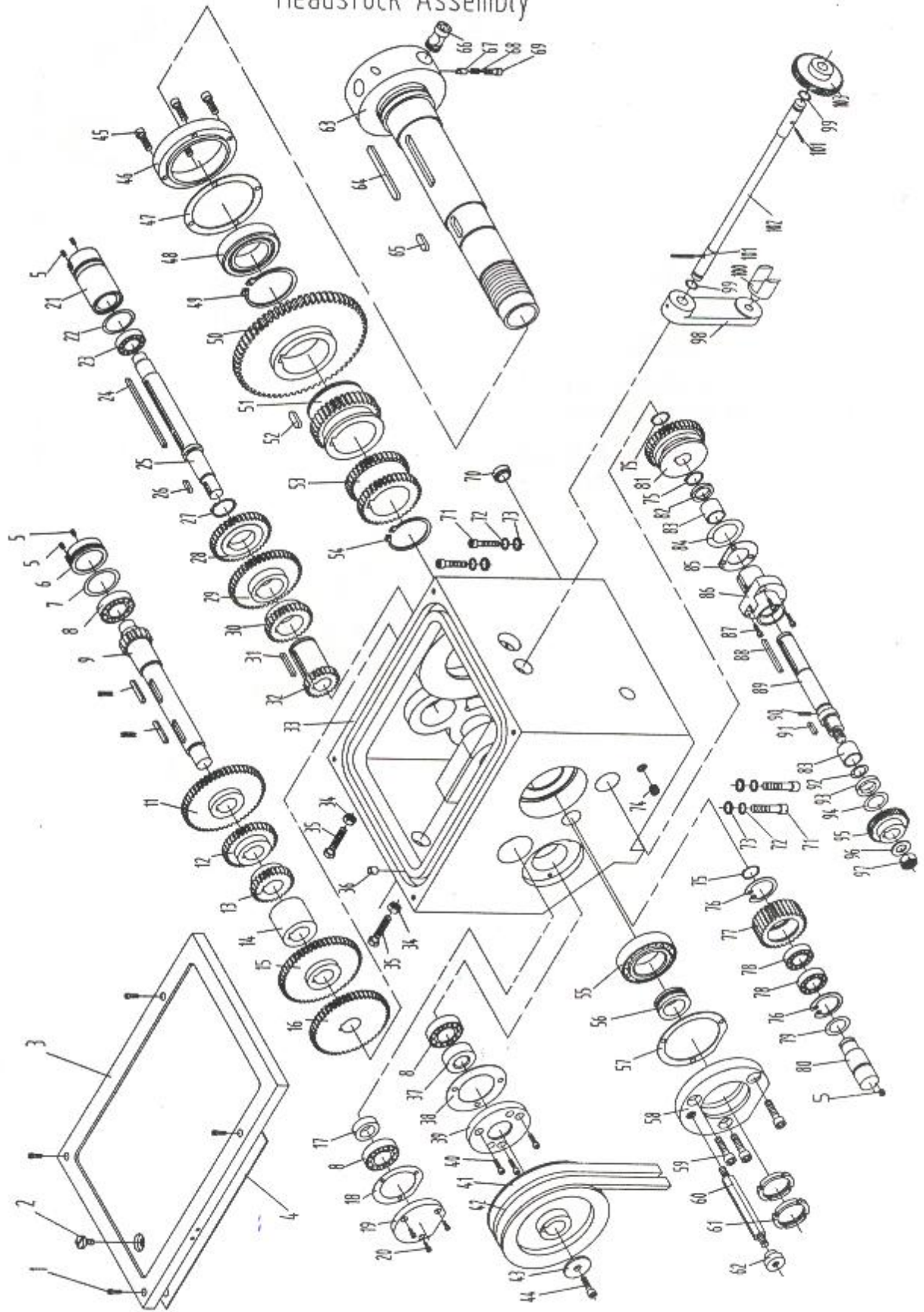
1.

Bed Assembly

Index No.	Part No.	Description	Size	Qty
1	GB/T70	Hex Socket Cap Screw	M10×40	4
2	GB/T41	Hex Nut	M8	2
3	GB/T881	Pin	8×75	2
4	CZ1340G-01-015	Gap		1
5	GB/T77	Set Screw	M10×16	1
6	CZ1340G-07-028	Bed		1
7	GB/T5780	Hex Cap Bolt	M12×50	6
8	CZ1340G-01-016	Rack		1
9	GB/T117	Pin	5×25	6
10	GB/T70	Hex Socket Cap Screw	M6×20	8
11	CZ1340G-01-017	Rack		2
12	CZ1340G-07-058	Bracket		1
13	CZ1340G-01-024	Plug		1
14	CZ1340G-01-024	Plug		1
15	CZ1340G-01-024	Plug		1
16	GB/T70	Hex Socket Cap Screw	M8×55	2
17	GB/T117	Pin	6×70	2
18	GB/T1155	Oil Ball	8	2
19	GB/T70	Hex Socket Cap Screw	M6×16	2
20	GB/T119	Pin	8×25	1
21	CZ1340G-01-025	Handle		1
22	CZ1340G-01-030	Collar		1
23	CZ1340G-01-028	Key		1
24	CZ1340G-01-029	Brake Ring		1
25	GB/T2089	Spring	1×6×25	3
26	CZ1340G-07-057	Bracket		1
27	GB/T6172	Hex Nut	M8	2
28	GB/T79	Screw	M8×28	2
29	GB/T879	Pin	3×16	1
30	CZ1340G-01-026	Handle		1
31	JB/T7271.5	Knob	AM10×50	1
32	CZ1340G-01-018	Lead screw		1
33	CZ1340G-01-019	Feed Rod		1
34	CZ1340G-01-020	Shaft		1
35	CZ1340G-01-021	Collar		1
36	GB/T78	Set Screw	M6×10	1
37	CZ1340G-01-006	Pulley		1
38	GB/T77	Screw		1
39	GB/T1096	Key	8×40	1
40	GB/T5780	Hex Cap Bolt	M8×25	4
41	GB/T97	Washer	10	4
42		Motor	2HP(1.5KW)	1
43	GB/T5780	Hex Cap Bolt	M10×35	3
44	GB/T96	Washer	10	3

Index No.	Part No.	Description	Size	Qty
45	CZ1340G-01-005	Motor Mounting Plate		1
46	CZ1340G-02-001	Lock Nut		2
47	CZ1340G-00-005	Cover		1
48	CZ1340G-02-002	Screw		1
49	CZ1340G-02-002	Screw		1

Headstock Assembly



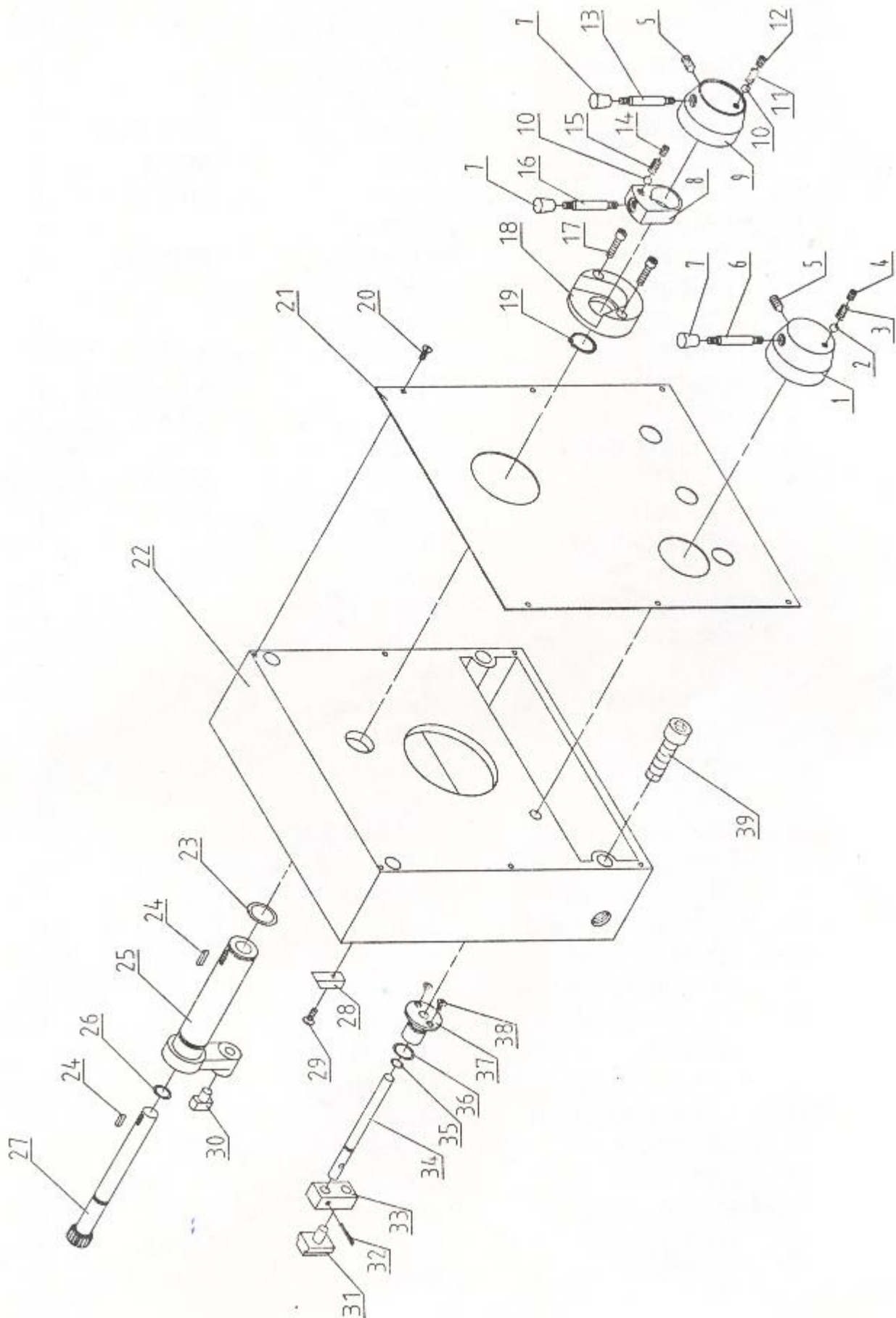
Headstock Assembly

Index No.	Part No.	Description	Size	Qty.
1	GB/T70	Screw	M6×16	6
2	CZ1340G-02-009	Screw		1
3	CZ1340G-02T01-001	Cover		1
4	CZ1340G-02-008	Gasket		1
5	GB/T77	Screw	M6×8	5
6	CZ1340G-02-031	Plug		1
7	GB/T7757.2	O-Ring	41.3×3.1	1
8	GB/T276	Bearing	6204/P6	3
9	CZ1340G-02-030	Gear Shaft		1
10	GB/T1096	Key	6×56	2
11	CZ1340G-02-032	Gear	53T	1
12	CZ1340G-02-029	Gear	34T	1
13	CZ1340G-02-028	Gear	26T	1
14	CZ1340G-02-027	Collar		1
15	CZ1340G-02-067	Gear	43T	1
16	CZ1340G-02-065	Gear	51T	1
17	CZ1340G-02-066	Washer		1
18	CZ1340G-02-064	Gasket		1
19	CZ1340G-02-063	Rear Cover		1
20	GB/T70	Screw	M4×12	3
21	CZ1340G-02-026	Plug		1
22	GB/T7757.2	Bearing	34.7×3.1	1
23	GB/T276	Bearing	6203/P6	1
24	GB/T1096	Key	6×120	1
25	CZ1340G-02-025	Shaft		1
26	GB/T1096	Key	5×20	1
27	GB/T894.1	C-Clip	35	1
28	CZ1340G-02-022	Gear	38T	1
29	CZ1340G-02-021	Gear	46T	1
30	CZ1340G-02-019	Gear	29T	1
31	GB/T1096	Key	5×50	1
32	CZ1340G-02-018	Gear	21T	1
33	CZ1340G-02T01-004	Main Casting		1
34	GB/T41	Hex Nut	M8	2
35	GB/T5781	Screw	M8×50	2
36	CZ1340G-02-010	Oil Pipe		2
37	GB/T9877.1	Oil Seal	B20408B	1
38	CZ1340G-02-017	Gasket		1
39	CZ1340G-02-016	Cover		1
40	GB/T70	Screw	M6×16	3
41	GB/T1171.1	V-Belt	A787	2
42	CZ1340G-02-015	Pulley		1
43	CZ1340G-02-013	Washer		1
44	GB/T70	Screw	M8×20	1

Index No.	Part No.	Description	Size	Qty.
45	GB/T70	Screw	M6×25	4
46	CZ1340G-02-011	Front Cover		1
47	CZ1340G-02-012	Gasket		1
48	GB/T279	Bearing	30212/P5	1
49	Gb/T894.1	C-Clip	72	1
50	CZ1340G-02-036	Gear	74T	1
51	CZ1340G-02-033	Gear	37T	1
52	GB/T1096	Key	8×18	1
53	CZ1340G-02-037	Gear	37T	1
54	GB/T894.1	C-Clip	50	1
55	GB/T297	Bearing	30210/P5	1
56	CZ1340G-02-062	Collar		1
57	CZ1340G-02-005	Gasket		1
58	CZ1340G-02-004	Rear Cover		1
59	GB/T70	Screw	M6×25	3
60	CZ1340G-02-002	Screw		1
61	GB/T810	Lock Nut	M50	2
62	CZ1340G-02-001	Lock Nut		1
63	CZ1340G-02-003	Spindle		1
64	GB/T1096	Key	8×90	1
65	GB/T1096	Key	6×40	1
66	CZ1340G-02-034	Cam		3
67	CZ1340G-02-035	Pin		3
68	GB/T2089	Spring	0.6×3×10	3
69	GB/T70	Screw	M8×20	3
70	JB/T7941.1	Oil Sight	A20	1
71	GB/T70	Screw	M10×40	4
72	GB/T97.1	Washer	10	4
73	GB/T93	Washer	10	4
74	GB/T77	Screw	M12×12	1
75	GB/T894.1	C-Clip	20	3
76	GB/T893.1	C-Clip	42	2
77	CZ1340G-02-059	Gear	30T	
78	GB/T276	Bearing	16004/P6	2
79	GB/T7757.2	O-Ring	19.8×2.65	1
80	CZ1340G-02-061	Shaft		1
81	CZ1340G-02-045	Gear	37T	1
82	CZ1340G-02-051	Washer		1
83	CZ1340G-02-055	Collar		2
84	GB/T7757.2	O-Ring	26.3×3.1	1
85	CZ1340G-02-053	Gasket		1
86	CZ1340G-02-052	Collar		1
87	GB/T70	Screw	M5×16	3
88	GB/T1096	Key	6×50	1
89	CZ1340G-02-054	Shaft		1

Index No.	Part No.	Description	Size	Qty.
90	GB/T879	Pin	3×10	1
91	GB/T1096	Key	×18	1
92	GB/T7757.2	O-Ring	13.8×3.1	1
93	CZ1340G-02-056	Washer		1
94	GB/T10708.3	Oil Seal	24×32×5	1
95	CZ1340G-02-057	Gear	40T	1
96	GB/T97.1	Washer	12	1
97	GB/T41	Nut	M12	1
98	CZ1340G-02-024	Shift Lever		1
99	GB/T7757.2	O-Ring	11.8×1.8	2
100	CZ1340G-02-020	Shift Fort		1
101	GB/T879	Pin	5×32	2
102	CZ1340G-02-023	Shaft		1
103	CZ1340G-02-040	Gear	51T	1

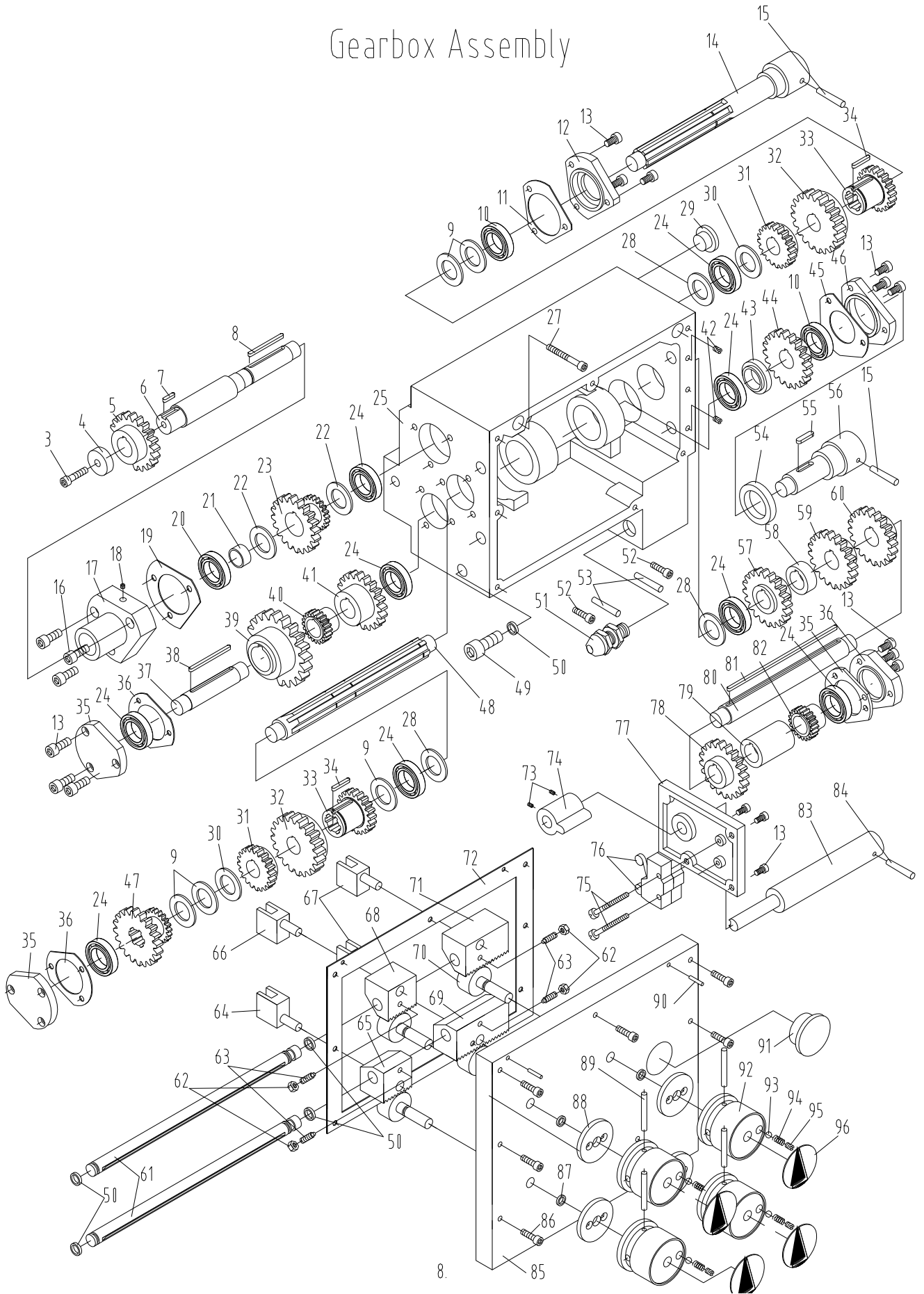
Inlaid Block Assembly



Inlaid Block Assembly

Index No.	Part No.	Description	Size	Qty.
1	CZ1340G-02-046	Handle Body		1
2	GB/T308	Steel Ball	5	1
3	GB/T2089	Spring	$0.6 \times 3 \times 18$	1
4	GB/T77	Screw	$M6 \times 8$	1
5	GB/T71	Screw	$M6 \times 12$	1
6	CZ1340G-02-068	Handle		1
7	JB/T7271.5	Lever Sleeve	$BM8 \times 40$	3
8	CZ1340G-02-044	Handle Block		1
9	CZ1340G-02-043	Handle Body		1
10	GB/T308	Steel Ball	6	2
11	GB/T2089	Spring	$0.9 \times 4 \times 20$	1
12	GB/T77	Screw	$M8 \times 10$	1
13	CZ1340G-02-058	Handle		1
14	GB/T77	Screw	$M8 \times 8$	1
15	GB/T2089	Spring	$0.9 \times 4 \times 7$	1
16	CZ1340G-02-060	Handle		1
17	GB/T70	Screw	$M6 \times 20$	2
18	CZ1340G-02-042	Hub		1
19	GB/T894.1	C-Clip	30	1
20	GB/T818	Screw	$M4 \times 6$	6
21	CZ1340G-02T01-006	Name Plate		1
22	CZ1340G-02T01-005	Inlaid Block		1
23	GB/T7757.2	O-Ring	25.7×2.65	1
24	GB/T1096	Key	5×16	2
25	CZ1340G-02T01-002	Revolving Sleeve		1
26	GB/T7757.2	O-Ring	13.8×1.8	1
27	CZ1340G-02T01-003	Gear Shaft		1
28	CZ1340G-02T01-008	Block		1
29	GB/T819	Screw	$M4 \times 12$	1
30	CZ1340G-02-038	Shift Fork		1
31	CZ1340G-02-049	Shift Fork		1
32	GB/T879	Spring Pin	4×18	1
33	CZ1340G-02-050	Shaft Housing		1
34	CZ1340G-02T01-007	Shaft		1
35	GB/T7757.2	O-Ring	7×1.8	1
36	GB/T7757.2	O-Ring	16×2.65	1
37	CZ1340G-02-047	Shift Hub		1
38	GB/T819	Screw	$M4 \times 8$	2
39	GB/T70-85	Screw	$M10 \times 40$	4

Gearbox Assembly



Gearbox Assembly

Index No.	Part No.	Description	Size	Qty.
3	GB/T70	Screw	M6×16	1
4	CZ1340G-03-007	Shaft Cover		1
5	CZ1340G-07-008	Gear(30T,54T,56T,57T,	60T,63T,66T,69T,7	9
			8T)	
6	CZ1340G-07-013	Shaft		1
7	GB/T1096	Key	5×18	1
8	GB/T1096	Key	5×45	1
9	GB/T894	C-Clip	20	5
10	GB/T276	Bearing	6004	2
11	CZ1340G-07-018	Gasket		1
12	CZ1340G-07-021	Cover		1
13	GB/T70	Screw	M5×12	18
14	CZ1340G-07-022	Shaft		1
15	GB/T117	Pin	3×32	2
16	GB/T70	Screw	M6×20	3
17	CZ1340G-07-009	Cover		1
18	GB/T1155	Oil Ball	6	1
19	CZ1340G-07-010	Gasket		1
20	GB/T276	Bearing	6203	1
21	CZ1340G-07-012	Cover		1
22	GB/T894	C-Clip	16	2
23	CZ1340G-07-011	Gear	24T,16T	1
24	GB/T276	Bearing	6202	9
25	CZ1340G-07-001	Casting		1
26	GB/T879	Pin	5×20	2
27	GB/T70	Screw	M8×65	2
28	CZ1340G-07-049	Collar		3
29	CM1224C-03-034	Oil Cover		1
30	GB/T894	C-Clip	26	2
31	CZ1340G-07-053	Gear	24T	2
32	CZ1340G-07-052	Gear	28T	2
33	CZ1340G-07-051	Gear		2
34	GB/T1096	Key	4×22	2
35	CZ1340G-07-005	Cover		3
36	CZ1340G-07-004	Gasket		3
37	CZ1340G-07-015	Shaft		1
38	GB/T1096	Key	4×55	1
39	CZ1340G-07-006	Gear	24T	1
40	CZ1340G-07-007	Gear	16T	1
41	CZ1340G-07-014	Gear	32T	1
42	GB/T77	Screw	M5×16	2
43	CZ1340G-07-059	Cover		1
44	CZ1340G-07-047	Gear	32T	1
45	CZ1340G-07-045	Gasket		1
46	CZ1340G-07-044	Cover		1
47	CZ1340G-07-002	Gear	16T	1

Gearbox Assembly

Index No.	Part No.	Description	Size	Qty.
48	CZ1340G-07-003	Shaft		1
49	GB/T70	Screw	M10×16	1
50	GB/T3452.1	O-Ring	9.5×1.8	5
51	D97-4-20	Locking Connector of Tube		1
47	CZ1340G-07-002	Gear	16T	1
48	CZ1340G-07-003	Shaft		1
49	GB/T70	Screw	M10×16	1
50	GB/T3452.1	O-Ring	9.5×1.8	5
51	D97-4-20	Locking Connector of Tube		1
52	GB/T70	Screw	M8×25	2
53	GB/T117	Pin	6×25	2
54	GB/T9877.1	Oil Seal	28×40×7	1
55	GB/T1096	Key	5×20	1
56	CZ1340G-07-043	Shaft		1
57	CZ1340G-07-056	Gear	32T	1
58	CZ1340G-07-055	Cover		1
59	CZ1340G-07-054	Gear	30T	1
60	CZ1340G-07-016	Gear	28T	1
61	CZ1340G-07-027	Shaft		2
62	GB/T41	Nut	M5	4
63	GB/T75	Screw	M5×16	4
64	CZ1340G-07-024	Slip Fitting		1
65	CZ1340G-07-026	Rack		1
66	CZ1340G-07-023	Slip Fitting		1
67	CZ1340G-07-029	Slip Fitting		2
68	CZ1340G-07-025	Rack		1
69	CZ1340G-07-030	Rack		1
70	CZ1340G-07-037	Gear Shaft		4
71	CZ1340G-07-034	Rack		1
72	CZ1340G-07-033	Gasket		1
73	GB/T77	Screw	M6×10	4
74	CZ1340G-07-038	Engaging Arm		1
75	GB/T65	Screw	M4×55	2
76	LXW5-11G2	Switch		2
77	CZ1340G-07-048	Lid		1
78	CZ1340G-07-017	Gear	30T	1
79	CZ1340G-07-019	Cover		1
80	CZ1340G-07-050	Shaft		1
81	GB/T1096	Key	4×145	1
82	CZ1340G-07-020	Gear	16T	1
83	CZ1340G-07-046	Shaft		1
84	GB/T117	Pin	3×25	1
85	CZ1340G-07-039	Cover		1
86	GB/T70	Screw	M5×25	8
87	GB/T3452.1	O-Ring	6.9*1.8	4
88	CZ1340G-07-035	Washer		4
89	GB/T879	Pin	4×40	4

Index No.	Part No.	Description	Size	Qty.
90	GB/T879	Pin	4×25	2
91	GB/T1160.1	Oil Sight Glass	20	1
92	CZ1340G-07-036	Handle Body		4
93	GB/T308	Steel Ball	6.5	4
94	GB/T2089	Spring	1×5×20	4
95	GB/T77	Screw	M8×10	4
96	CZ1340G-07-041	Panel		4

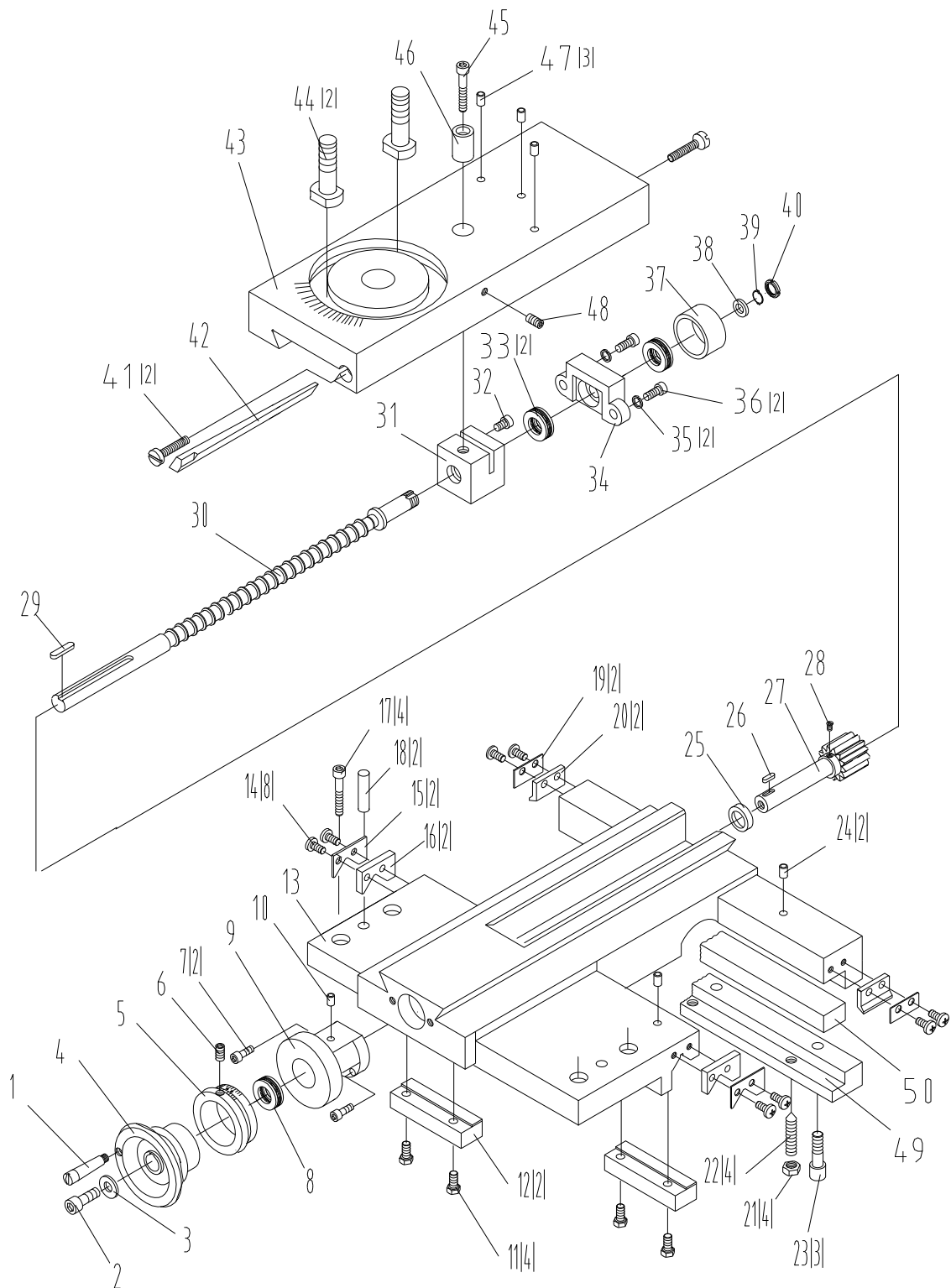
This technical drawing is an exploded view of an Apron Assembly. It shows the main components and their sub-assemblies, each labeled with a number. The assembly includes a central rectangular frame (15), a large gear (11), a motor or actuator (25), and various mounting brackets (58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88). The diagram illustrates the relationship between these parts, showing how they fit together to form the complete assembly. The parts are numbered as follows: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88.

Apron Assembly

Index	NO.	Part NO.	Description	Size	Qty
1		GB/T5780	Screw	M6*10	1
2		CZ1340G-04-030	Washer		1
3		CZ1340G-04-016	Gear	22T	1
4		GB/T1096	Key	5*12	1
5		CZ1340G-04-015	Shaft		1
6		GB/T3452.1	O-Ring	20*2.4	1
7		CZ1340G-04-013	Gear	40T	1
8		GB/T879	Pin	5H30	1
9		CZ1340G-04-004	Gear Shaft	13T	1
10		GB/T879	Pin	5*30	1
11		CZ1340G-04-005	Gear	60T	1
12		CZ1340G-04-047	Bracket		1
13		GB/T70	Screw	M6*16	1
14		CZ1340G-04-001	Apron box		1
15		GB/T3452.1	O-Ring	12*2.4	1
16		GB/T5781	Screw	M12*25	1
17		CZ1340G-04-029	Cover		1
18		CZ1340G-04-002	Gear Shaft	14T	1
19		GB/T1096	Key	A5*18	1
20		JB/T7940.4	Oil Ball	8	1
21		CZ1340G-04-003	Dial seat		1
22		GB/T70	Screw	M6*25	3
23		GB/T78	Screw	M5*6	1
24		CZ1340G-04-048	Dial		1
25		CZ1340G-04-045	Hand wheel		1
26		CZ1340G-04-046	Washer		1
27		GB/T70	Screw	M6*16	1
28		CZ1340G-04-043	Screw		1
29		CZ1340G-04-044	Handle		1
30		GB/T4141.14	Handle	M8*16	1
31		CZ1340G-04-009	Handle rod		1
32		CZ1340G-04-008	Shift lever		1
33		GB/T70	Screw	M6H25	3
34		CZ1340G-04-007	Box		1
35		GB/T308	Steal Ball	5	2
36		GB/T1239.2-89	Spring	0.8*4*20	2
37		GB/T77	Screw	M6*6	2
38		CZ1340G-04-022	Cover		1
39		GB/T70	Screw	M6*12	4
40		GB/T879	Spring Pin	5*20	2
41		CZ1340G-04-006	Cover		1
42		CZ1340G-04-028	Gear	63T	1
43		GB/T119	Pin	B8*25	3
44		CZ1340G-04-024	Bushing		1
45		GB/T119	Pin	A3*25	1
46		CZ1340G-04-027	Gear	40T	1

Index	NO.	Part NO.	Description	Size	Qty
47		GB/T77	Screw	M5*12	2
48		CZ1340G-04-023	Gear	30T	1
49		JB/T7941.1	Oil Sight	12	1
50		CZ1340G-04-041	Oil Plug		1
51		CZ1340G-04-033	Bushing		1
52		CZ1340G-04-026	Shaft		1
53		GB/T70	Screw	M5*12	2
54		CZ1340G-04-012	Shaft		1
55		CZ1340G-04-011	Gear	18T	1
56		CZ1340G-04-010	Washer		1
57		GB/T70	Screw	M6*10	1
58		GB/T83	Screw	M5*5	1
59		GB/T77	Screw	M6*10	1
60		CZ1340G-04-034	Bar		1
61		CZ1340G-04-018	Half Nut		1
62		GB/T5781	Bolt	M6*12	2
63		GB/T79	Screw	M6*35	2
64		GB/T6170	Nut	M6	2
65		GB/T5781	Screw	M5*16	3
66		CZ1340G-04-019	Nut seat		1
67		GB/T6170	Nut	M5	3
68		GB/T77	Screw	M5*16	3
69		CZ1340G-04-021	Gib		1
70		GB/T119	Pin	6*12	2
71		CZ1340G-04-017	Shaft		1
72		CZ1340G-04-020	Handle Seat		1
73		CZ1340G-04-042	Handle Rod		1
74		GB/T4141.14	Knob	M8*40	1
75		GB/T6170	Nut	M8	1
76		GB/T93	Washer	8	1
77		CZ1340G-04-035	Bushing		1
78		CZ1340G-04-036	Gear		1
79		CZ1340G-04-037	Bushing		1
80		CZ1340G-04-040	Bushing		1
81		CZ1340G-04-039	Theading dial body		1
82		GB/T70-85	Screw	M8*50	1
83		CZ1340G-04-038	Theading dial shaft		1
84		GB/T827-86	Rivet	3*8	1
85		JB/T7940.4	Oil cup	6	1
86		CZ1340G-04-014	Worm		1
87		CZ1340G-04-031	Key		1
88		CZ1340G-04-032	Pin		1

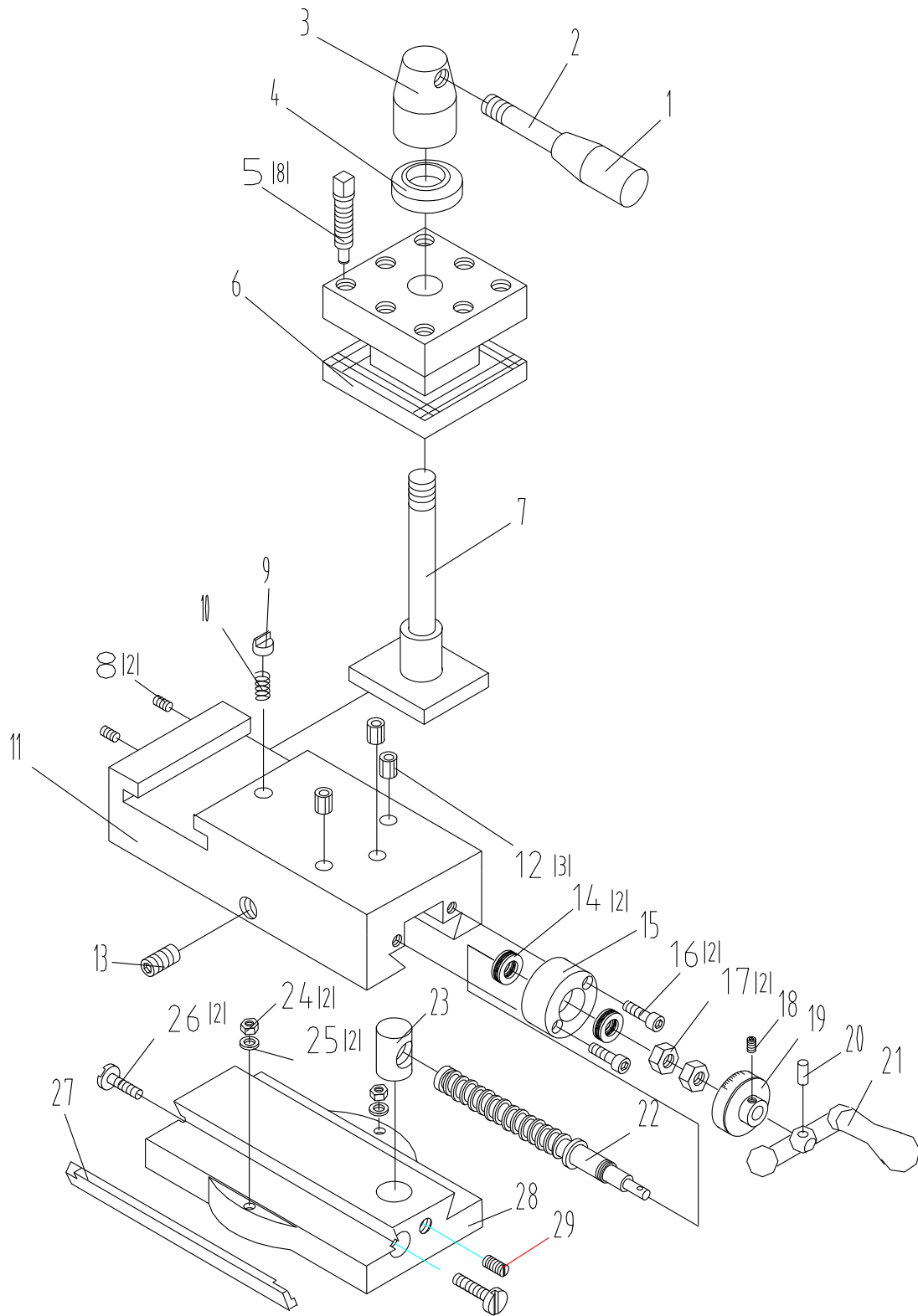
Saddle and Cross Slide Assembly



Saddle and Cross Slide Assembly

Index NO	Part NO	Description	Size	QTY
1	JB/T4141.5	Handle	M8*63	1
2	CZ1340G-05-023	Screw		1
3	CZ1340G-05-022	Washer		1
4	CZ1340G-05-021	Handle Wheel		1
5	CZ1340G-05-038	Dial Ring		1
6	GB/T77	Screw	M6*8	1
7	GB/T70	Screw	M6825	2
8	GB/T301	Bearing	51104	1
9	CZ1340G-05-020	Hub		1
10	JB/T7940.4	Oil Ball	6	1
11	GB/T5781	Screw	M8*20	4
12	CZ1340G-05-013	Strip		2
13	CZ1340G-05-039	Saddle		1
14	GB/T823	Screw	M4*12	8
15	CZ1340G-05-013	Plate		2
16	CZ1340G-05-014	Plate		2
17	GB/T70	Screw	M8*30	4
18	GB/T118	Taper Pin	A8*40	2
19	CZ1340G-05-006	Plate		2
20	CZ1340G-05-007	Plate		2
21	GB/T6170	Nut	M6	4
22	GB/T71	Screw	M6*16	4
23	GB/T5781	Screw	M8*25	3
24	JB/T7940.4	Oil Ball	8	2
25	CZ1340G-05-019	Sleeve		1
26	GB/T1096	Key	4*4*20	1
27	CZ1340G-05-018	Gear Shaft		1
28	GB/T68	Screw	M3*6	1
29	GB/T1096	Key	5H5*30	1
30	CZ1340G-05-008	Lead Screw		1
31	CZ1340G-05-010	Lead Nut		1
32	GB/T70	Screw	M6*16	1
33	GB/T301	Bearing	51101	2
34	CZ1340G-05-003	Bearing Housing		1
35	GB/T93	Spring Washer	8	2
36	GB/T70	Screw	M8*25	2
37	CZ1340G-05-002	Anti-dust Cover		1
38	CZ1340G-05-001	Sleeve		1
39	GB/T858	Washer	12	1
40	GB/T810	Nut	M12	1
41	CZ1340G-05-032	Set Screw		2
42	CZ1340G-05-031	Gib		1
43	CZ1340G-05-039	Cross Slide		1
44	CZ1340G-05-017	T-Bolt		2
45	GB/T70	Screw	M8*16	1
46	CZ1340G-05-011	Sleeve		1
47	JB/T7940.4	Oil Ball	8	3
48	GB/T78	Screw	M8*10	1
49	CZ1340G-05-004	Metal piece		1
50	CZ1340G-05-005	Gib	M8*63	2

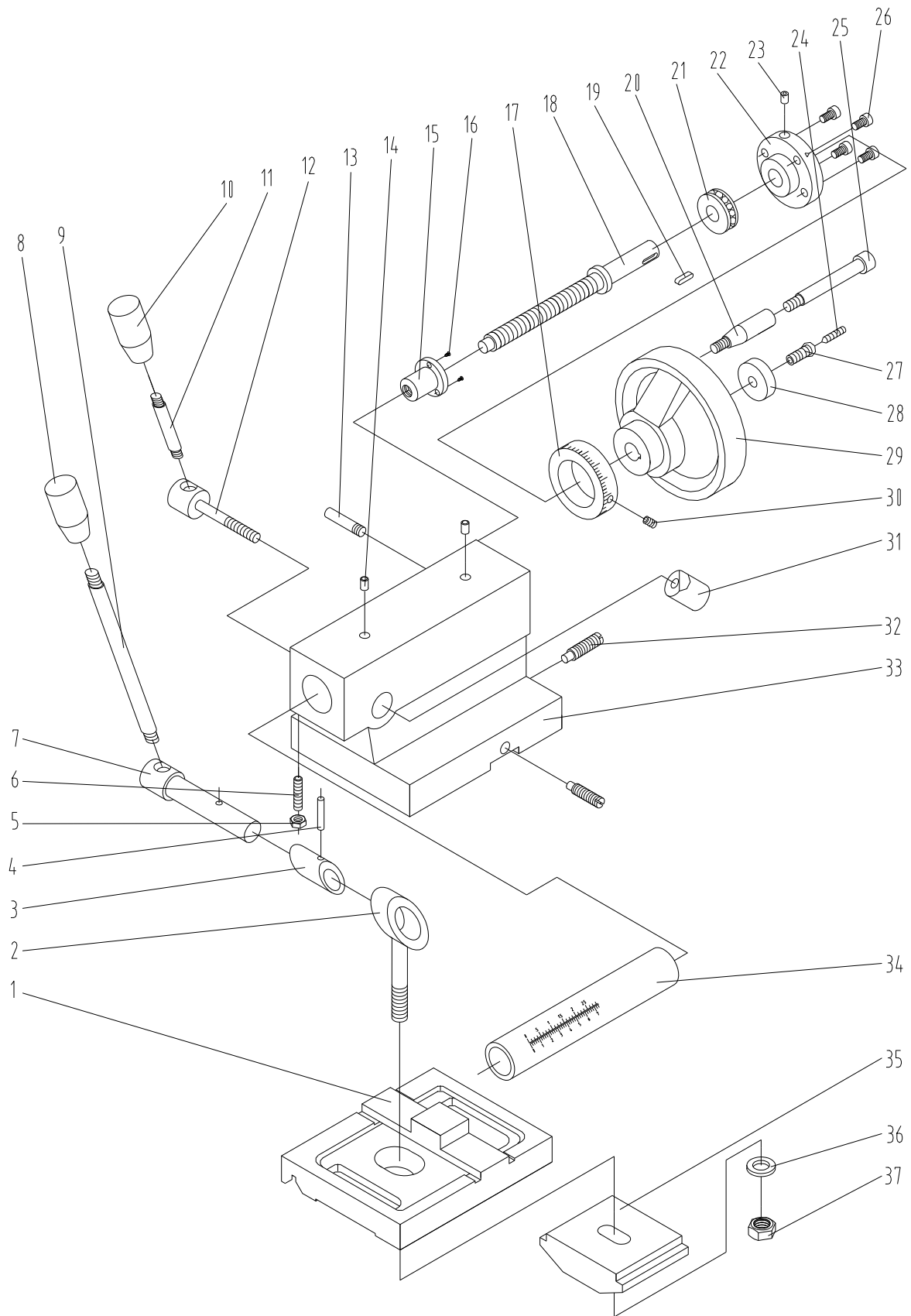
Tool Post Assembly



Tool Post Assembly

Index NO	Part NO	Description	Size	QTY
1	JB/T7271.5	Knob	M10H50	1
2	JB/T7271.6	Handle Rod		1
3	CZ1340G-05-026	Lock Nut		1
4	CZ1340G-05-024	Washer		1
5	GB/T83	Screw	M10H40	8
6	CZ1340G-05-029	Post Base		1
7	CZ1340G-05-025	Screw		1
8	GB/T78	Screw	M6H10	2
9	CZ1340G-05-030	Stop		1
10	GB/T2089	Spring	0.4H4H18	1
11	CZ1340G-05-028	Top Slide		1
12	JB/T7940.4	Oil Ball	6	3
13	GB/T78-85	Screw	M6H10	1
14	GB/T301	Bearing	51101	2
15	CZ1340G-05-034	Collar		1
16	GB/T70	Screw	M6H20	2
17	GB/T6173	Nut	M12H1	2
18	GB/T78	Screw	M6H6	1
19	CZ1340G-05-036	Dial Ring		1
20	GB/T117	Pin	A3H16	1
21	GB/T72701.9	Handle	8H25	1
22	CZ1340G-05-035	Lead Screw		1
23	CZ1340G-05-033	Lead Nut		1
24	GB/T6170	Nut	M8	2
25	GB/T97.2	Washer		2
26	CZ1340G-05-016	Set Screw		2
27	CZ1340G-05-015	Gib		1
28	CZ1340G-05-027	Swivel Slide		1
29	GB/T73	Screw	M8H8	1

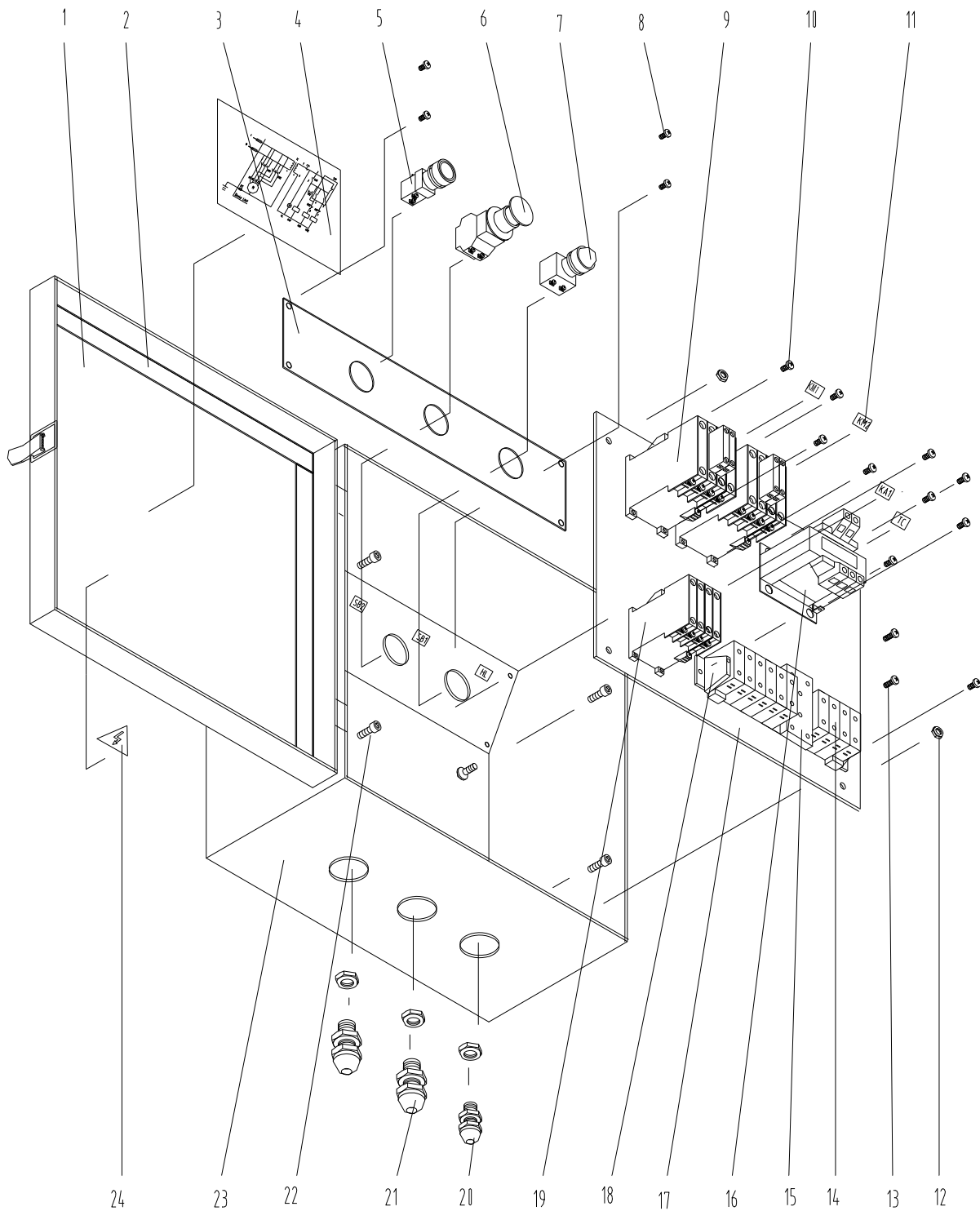
Tailstock Assembly



Tailstock assembly

Index No.	Part No.	Description	Size	Qty.
1	CZ1340G-06-020	Base		1
2	CZ1340G-06-017	Screw		1
3	CZ1340G-06-018	Collar		1
4	GB/T879	Pin	5×26	1
5	GB/T41	Nut	M8	1
6	GB/T79	Screw	M8×35	1
7	CZ1340G-06-019	Shaft		1
8	JB/T7271.5	Knob	BM10×50	1
9	CZ1340G-06-012	Lever		1
10	JB/T7271.5	Knob	BM8×40	1
11	CZ1340G-06-013	Screw		1
12	CZ1340G-06-015	Shaft		1
13	CZ1340G-06-014	Screw		2
14	JB/T7940.4	Oiler	8	2
15	CZ1340G-06-004	Nut		1
16	GB/T70-85	Screw	M4×12	3
17	CZ1340G-06-006	Index ring		1
18	CZ1340G-06-003	Screw		1
19	GB/T1096	Key	4×16	1
20	CZ1340G-06-010	Handle		4
21	GB/T301	Bearing	51102	1
22	CZ1340G-06-005	Flange cover		1
23	JB/T7940.4	Oiler	8	1
24	GB/T78	Screw	M5×20	1
25	CZ1340G-06-011	Screw		1
26	GB/T70	Screw	M6×16	4
27	CZ1340G-06-009	Screw		1
28	CZ1340G-06-008	Washer		1
29	CZ1340G-06-007	Hand wheel		1
30	GB/T75	Screw	M610	1
31	CZ1340G-06-016	Pivot block		1
32	GB/T78	Screw	M1045	3
33	CZ1340G-06-001	Casting		1
34	CZ1340G-06-002	Quill	M.T3	1
35	CZ1340G-06-021	Clamp plate		1
36	GB/T95	Washer	12	1
37	GB/T41	Nut	M12	1

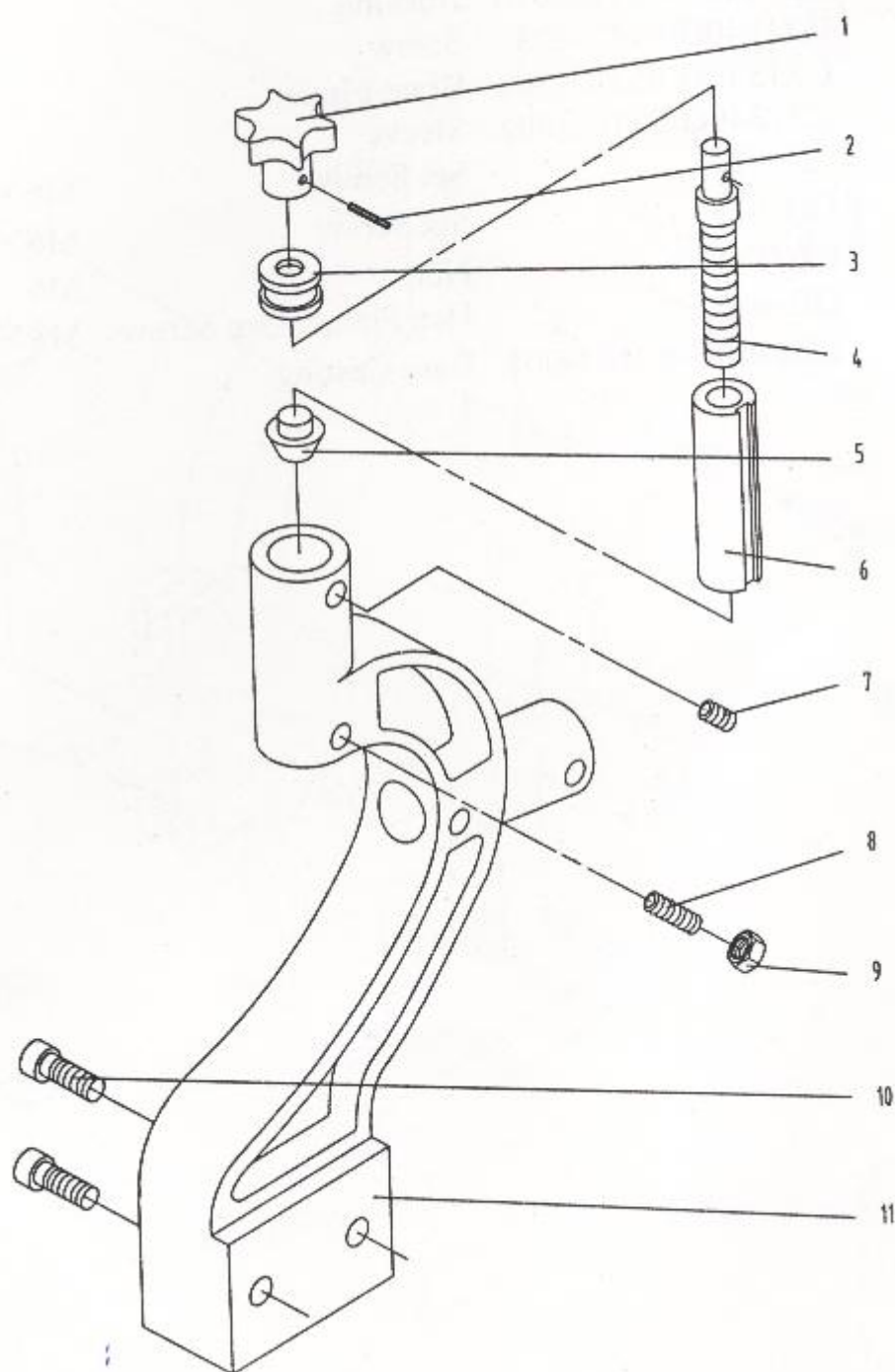
Electric box Assembly



Electric Box Assembly

Index No.	Part No.	Description	Size	Qty.
1	CZ1340G-09-001	Door of electrical box		1
2	CZ1340G-09-007	Pad		1
3	CZ1340G-09-005	Panel		1
4	CZ1340G-09-011(1)	Wiring diagram		1
5	XB7-EA.1	Green button		1
6	XB2-ES542	Emergency switch		1
7	XB7-EV6	Indicator		1
8	GB/T818	Screw	M4×8	10
9	LC1-D259	Contactor		2
10	GB/T818	Screw	M4×12	6
11	CZ1340G-09-006	Label		7
12	GB/T41	Nut	M6	4
13	GB/T818	Screw	M4×16	2
14	JH9-1.5ZG	Terminal plate		1
15	CZ1340G-09-009	Earth terminal		1
16	JBK3-63	Transformer		1
17	CZ1340G-09-003	Wiring plate		1
18	JH9-6ZG	Terminal plate		1
19	CA2-DN140	Relay		1
20	D97-4-20	Tube connector		1
21	D97-4-24	Tube connector		2
22	GB/T818	Screw	M6×10	4
23	CZ1340G-09-002	Electric box		1
24	CZ1340G-09-004	Warning sign		1

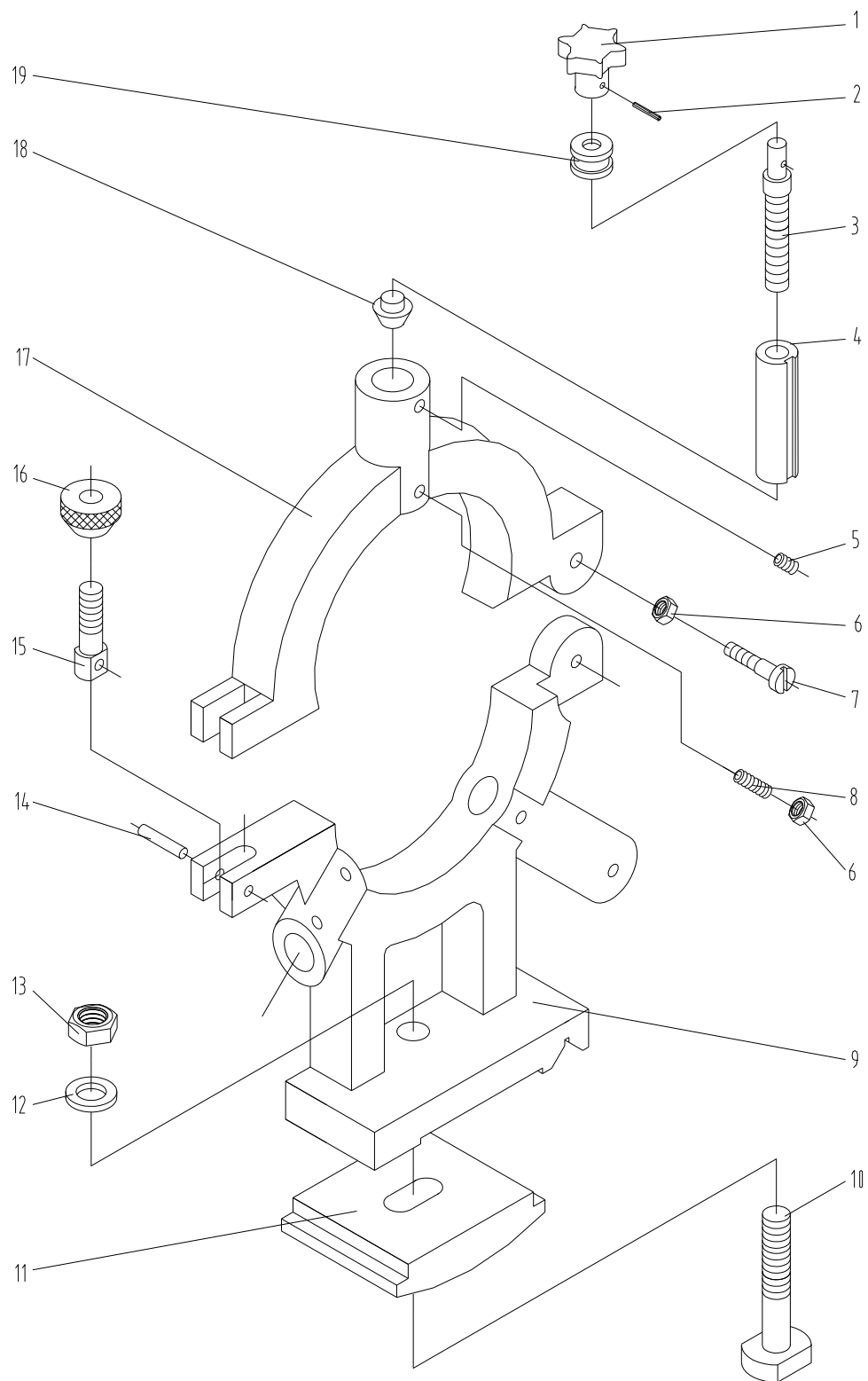
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Follow Rest

Index No.	Part No.	Description	Size	Qty
1	JB/T7274.4	Knob	8×40	2
2	GB/T879	Pin	3×18	2
3	CZ1340G-05T03-010	Bushing		2
4	CZ1340G-05T2-003	Screw		2
5	CZ1340G-05T03-008	Brass Finger		2
6	CZ1340G-05T02-002	Sleeve		2
7	GB/T77	Set Screw	M6×8	2
8	GB/T79	Set Screw	M6×16	2
9	GB/T6170	Nut	M6	2
10	GB/T70	Hex Socket Cap Screw	M8×45	1
11	CZ1340G-05T02-001	Base Casting		1

Steady Rest



Steady Rest

Index No.	Part No.	Description	Size	Qty
1	JB/T7274.4	Knob	8×40	3
2	GB/T879	Pin	3×18	3
3	CZ1340G-05T03-009	Screw		3
4	CZ1340G-05T03-011	Sleeve		3
5	GB/T78	Set Screw	M6×8	3
6	GB/T6170	Nut	M6	4
7	CZ1340G-05T03-007	Bolt	M6×30	1
8	GB/T79	Set Screw	M6×16	3
9	CZ1340G-05T03-003	Base Casting		1
10	CZ1340G-05T03-002	Clamp Screw		1
11	CZ1340G-05T03-001	Clamp Pad		1
12	GB/T96	Flat Washer	12	1
13	GB/T6170	Nut	M12	1
14	GB/T119	Pin	A5×25	1
15	CZ1340G-05T03-004	Pivot Bolt		1
16	CZ1340G-05T03-005	Lock Knob		1
17	CZ1340G-05T03-006	Top Casting		1
18	CZ1340G-05T03-008	Brass Finger		3
19	CZ1340G-05T03-010	Bushing		3